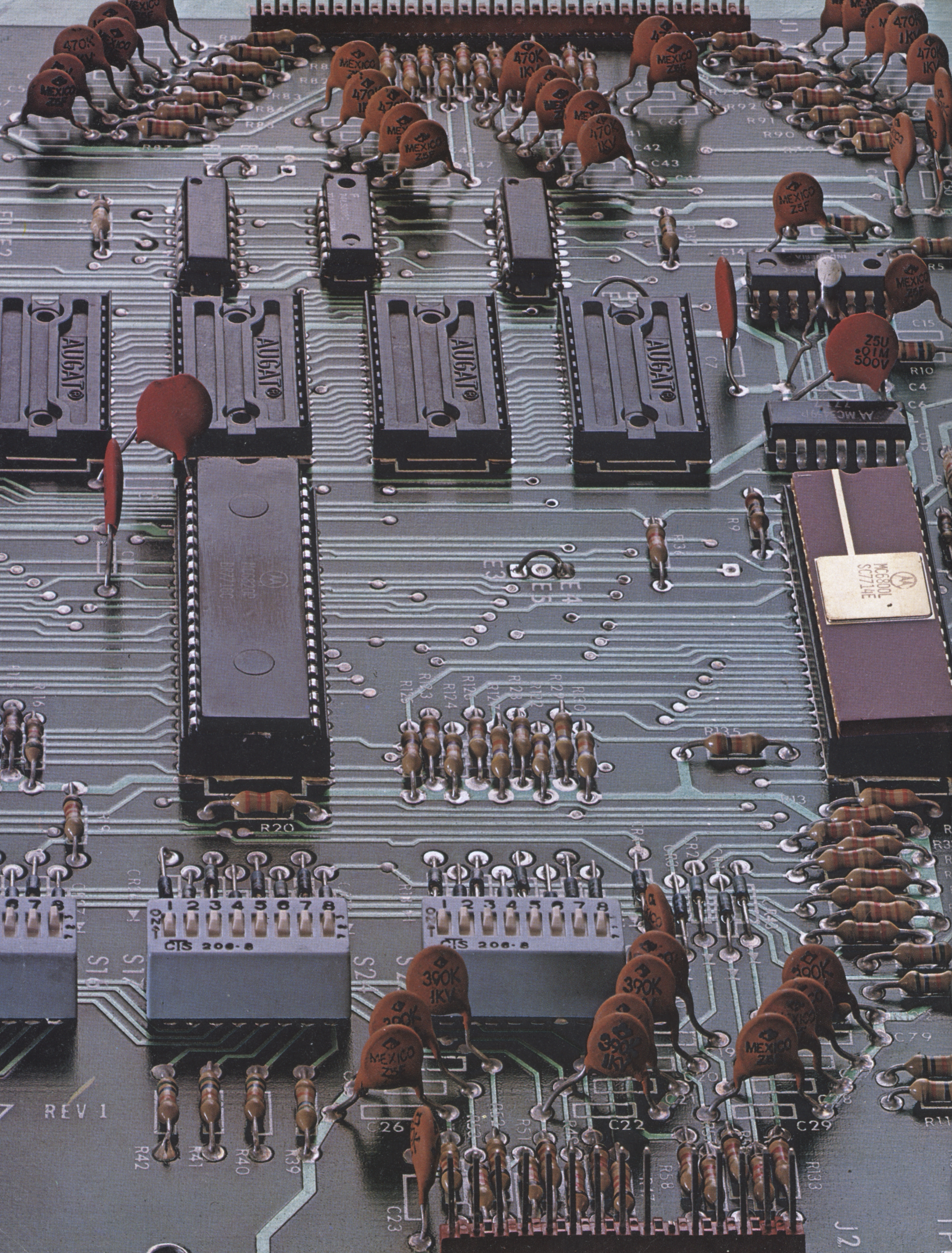
products that think®

TREASURE
TEXAS INSTRUMENTS
MYSTERY WORD
SECRET CODE
SAY IT
REPLAY
REPEAT
CLUE
LETTER
SPELL
OFF
GO
ON
A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z
MODULE SELECT
ERASE
ENTER
© TI 1978
Speak & Spell™

3

The new Texas Instruments brain that talks. See Page 41.


AUGAT
MEXICO Z5F
470K 1KV
390K 1KV
Z5U .01M 500V
MC6800L SC7714E
CTS 206-8
REV 1
R20
R135
R42
R41
R40
R39
C22
C26
C29
C42
C43
C79
J2

ZEN
LIGHT
START/STO
ALARM 2 CHIME
TIMER STOP
LTI ALARM
READ/SE
RESE
DECISION SCIENCE COMPUTER
I CHING
DECISION SCIENCE COMPUTER
CASSETTE SYSTEM
RIGHT LEVEL
VU
AUX
PHONO
SPEAKERS-B
LOUDNESS
HI FILTER
BASS

Dear Customer,

Dear Customer,

The catalog you are holding is very valuable. In the first place, it contains articles about several products that are being introduced for the first time and which represent major breakthroughs in micro-electronics.

Secondly, it is not just a catalog, but a magazine–complete with editorial material designed to help you learn more about the products we are introducing. Most companies try to make each page of a catalog pay for itself by selling enough merchandise to justify the cost of printing the page. Our publication, hopefully, will pay for itself in its entirety, but no single page was placed in the 'magazine' strictly to pay for itself.

Our purpose for this issue is to paint a picture of the micro-electronic industry, its growth, and its potential. You'll read about products that were impossible to build just a few months ago–products that save time, money, and provide conveniences never before possible.

Saving money is probably the most important feature we look for in a new product. We also price our merchandise so it indeed represents outstanding value. Sure, we hope to profit from each product we sell, but we sell in such large volume from a single central source that we can keep our profit margins low and still provide outstanding service.

Buying through the mail from JS&A makes sense. Not only do you get 30 days to use whatever you purchase, but if you decide to return it, you know that you'll get your money back quickly and without having stuffy sales clerks look down their noses at you.

SOMETHING TO SAVE

You'll notice a large number 3 on the front cover of this, our third full-color issue. We've numbered them because we honestly feel that these publications will someday become collectors' items. For in these pages, you will see an entire new industry unfolding before your eyes with exciting new products and innovations. There is no publication, magazine, or catalog that can compare with it.

JS&A is the company other manufacturers come to first with their new products–often years before they are ready to introduce them. Our product introductions are indeed the first exposure these products have.

The photo to the left is of a circuit board that controls a consumer pinball machine. A few years ago, the same device would have required a room full of computers. Technology has advanced rapidly, so you can imagine the exciting new consumer products we are unveiling in this issue.

JS&A knows how to explain the complex micro-electronic products in simple, honest terms so you can understand the product, its applications, its advantages, and even its disadvantages. Please note the word 'disadvantages.' Many products have limitations, and we feel it our obligation to point these out.

TENDENCY TO FOLLOW

Major retailers including Sears, Wards, Penney's and Radio Shack look to JS&A as a trend setter. A product that we introduce creates an immediate interest on their part. Many manufacturers realize this and let us introduce products first. Soon the major retailers follow and before long, we find ourselves responsible for launching major new industries.

JS&A is the company that not only introduced the first pocket calculator on a national basis, but we were a major factor in its growth and success in the United States. We were the first company to introduce the liquid crystal digital watch, and our pioneering activities have created new industries overnight.

JS&A provides the ultimate in customer service and after-sales follow through. We insist that our customers be satisfied. We do this with our 30-day trial period and by the most advanced state-of-the-art micrographics and computer technology. But we use this technology in a human way.

OUR PEOPLE

Sitting behind our computers are real people who, because of our sophisticated computer software, are able to answer practically any question very quickly. For example, if a customer sent us a letter and called one week later to check on his order and the status of his letter, our operators can recall his order history, a copy of his letter, and a copy of our answer while the customer is on the telephone.

And because we have real people sitting behind those computers, if any action has to be taken, it is taken promptly with an understanding of the problem.

Sure we make mistakes. All companies, no matter how hard they try, do make mistakes. But at JS&A, when we make a mistake, we admit it and try to correct the mistake quickly. With all our fancy computers, we're not perfect, but we sure try hard enough.

IMPORTANT TO US

We also treat our employees with a great deal of respect and try to provide a pleasant working environment. Our employees are very important to us. We feel a company can only be as good as its people, and we feel our people are tops.

But our most important asset are our customers. Without you, your continued interest in space-age technology, and your involvement with our company, we would not exist.

We appreciate your patronage, and we promise to continue bringing you the value, the innovation, and the exciting new products that have been the foundation of our company since its inception.

Sincerely,

JS&A National Sales Group

W. Mitchell

William Mitchell,
Group Marketing Director

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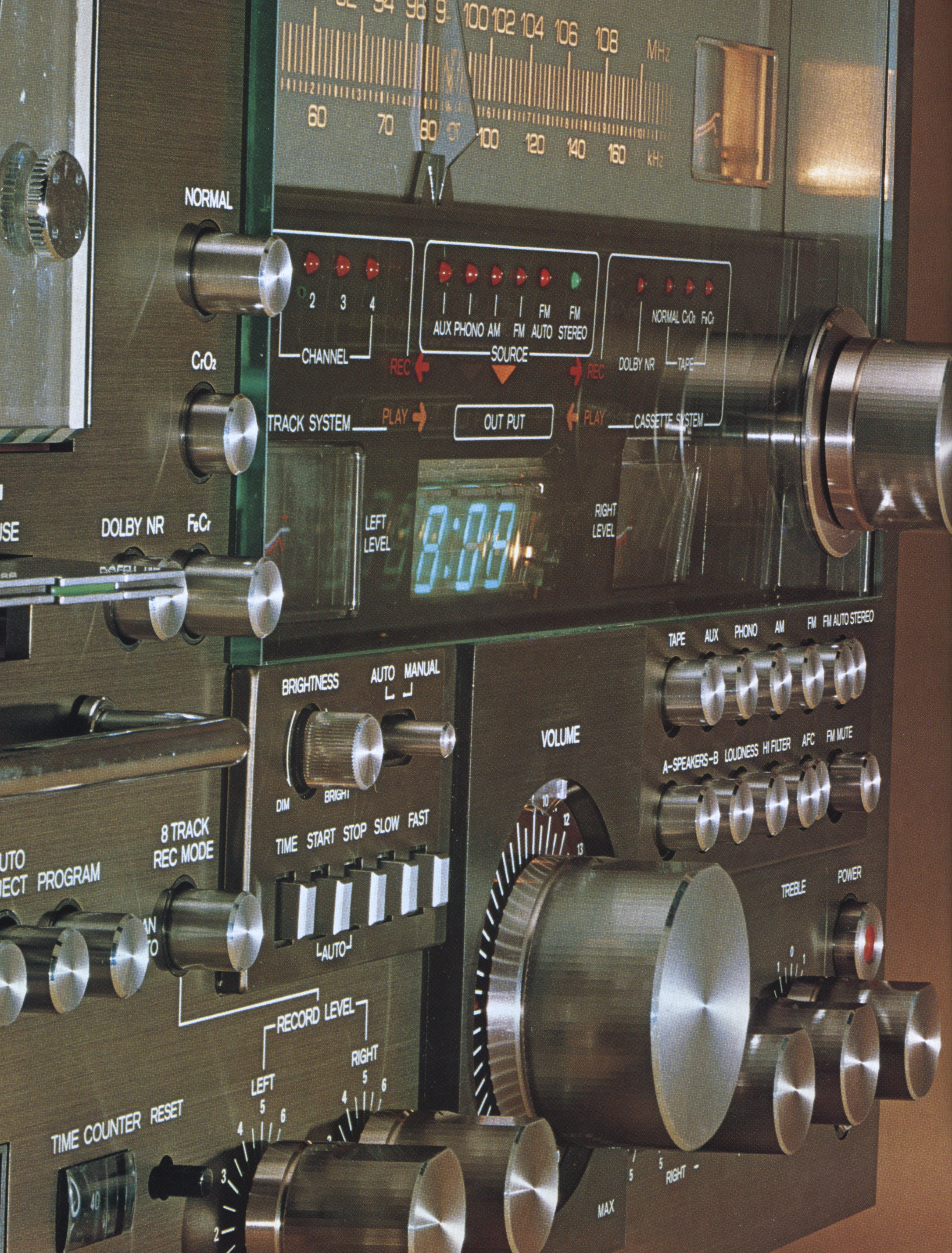
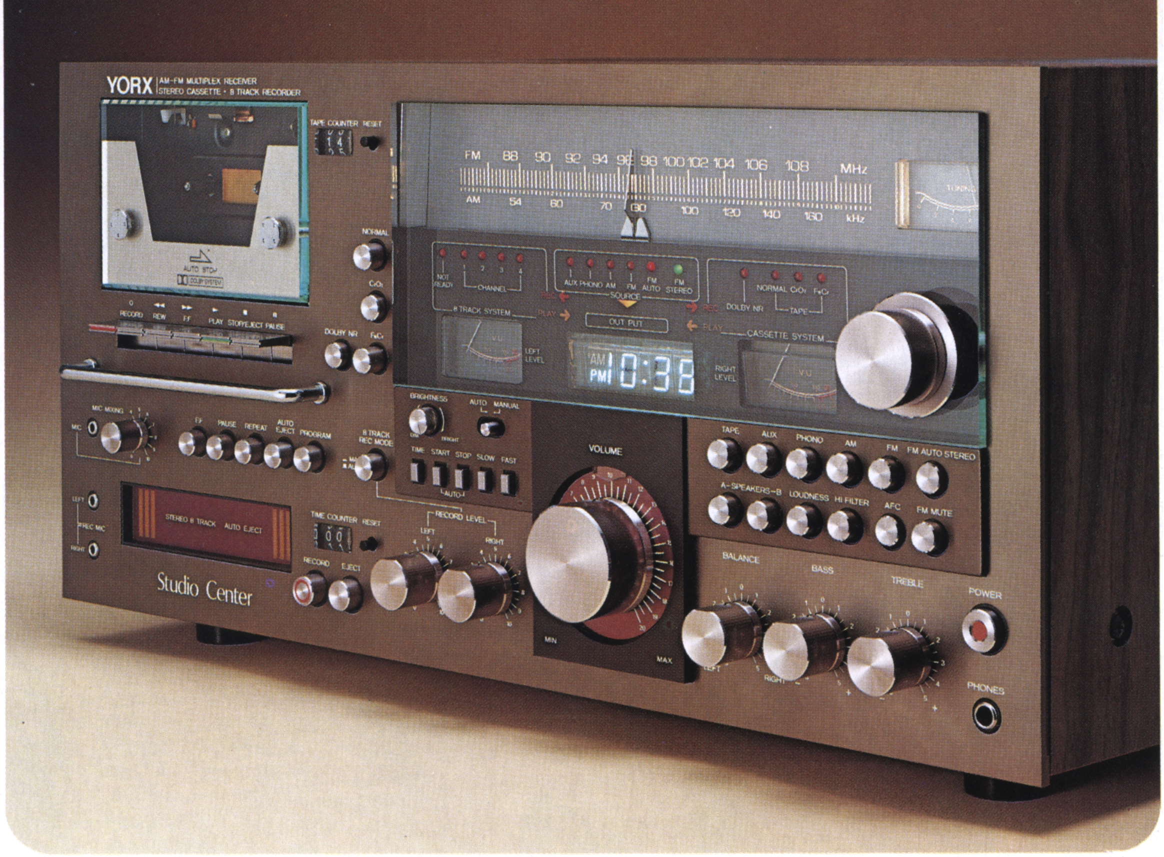


MHz
kHz
NORMAL
CrO₂
DOLBY NR
FeCr
CHANNEL
2 3 4
SOURCE
AUX PHONO AM FM FM AUTO FM STEREO
DOLBY NR
NORMAL CrO₂ FeCr
TAPE
REC
PLAY
TRACK SYSTEM
OUT PUT
CASSETTE SYSTEM
LEFT LEVEL
RIGHT LEVEL
TAPE AUX PHONO AM FM FM AUTO STEREO
A-SPEAKERS-B LOUDNESS HI FILTER AFC FM MUTE
VOLUME
BRIGHTNESS
AUTO MANUAL
DIM BRIGHT
TIME START STOP SLOW FAST
AUTO
8 TRACK REC MODE
PROGRAM
RECORD LEVEL
LEFT
RIGHT
TIME COUNTER RESET
TREBLE
POWER
MAX



Studio Sound Center

The concept is simple. Combine all the best components and features in a single solid-state instrument and make it sound great. That's the Yorx M2600 Studio Sound Center.

Not only do you have both cassette and 8-track playback and record capabilities, but you have the quality of the Dolby cassette noise reduction system (trademark of Dolby Laboratories, Inc.) and dual VU meters for recording on 8-track.

BUILT-IN AMPLIFIER

Powering the system is a 25 watt RMS per channel amplifier at 40-20,000 Hz with less than 0.8% total harmonic distortion at 8 ohms. The quality sound you get from the Yorx will resonate beautifully in your studio, office, or home.

POWER TIMER

The green fluorescent display on the electronic timer can be pre-set to turn the amplifier on or off. You can now record programs while you're away or turn on your system to wake you up in the morning.

The operating controls of the Yorx are like those in a sound studio. You can balance, mix, switch, tune, and bring the level of playback or recording exactly to your taste. The three very important things to us, however, are its quality, appearance, and concept.

QUALITY

There are very subtle touches that make the Yorx an outstanding quality product. The volume knob has a 41-detent volume control. This means that a full revolution will cause 41 "clicks" to sound as you turn the knob. You can locate an exact position on the volume control and always keep it there. This may not sound very important to you, but to us the 41-detent volume control is an example of the quality and detail that went into this instrument and one of the reasons for our enthusiasm.

THE APPEARANCE

We really don't have to describe the studio-like appearance of the Yorx. You can see it in our photographs. From our experience, however, the unit not only looks good, but adds to the appearance of any room.

THE CONCEPT

The idea of combining an AM/FM stereo tape system with an amplifier has been done before, but never with such space-age class.

The Yorx Studio Sound Center measures 19⅞" wide x 9⅝" high x 14¼" deep. Other features include: weighted flywheel tuning, lighted slide rule dial, signal strength meter and stereo indicator, calibrated professional detent controls (for bass, treble, and balance), record level controls, push button function switches with LED mode indicators, and it is also UL listed.

We are offering the unit by itself for only **$590** (6.00 Order Nr. **6001**). You can use your own speakers with the unit or you can order top quality Yorx speakers for **$90** each (6.00 Order Nr. **6002**). The Yorx matching speakers have a 10" heavy magnet woofer, a 5" mid range, and two 2½" tweeters. They feature an electronic cross-over network, and the handsome walnut enclosure measures 26" high x 15" wide x 9⅝" deep.

If you decide to order the entire system (the two speakers and basic unit), your cost is only. **$740** (18.00 Order Nr. **6003**) for the entire package—a truly outstanding value.

We urge you to at least give the system a try. Order one for your office, study, or home. Listen to the sound and experience its quality. Then decide if you want to keep it. If not, remember, you always have the option to return it if you're not absolutely satisfied.

The Yorx speaker.

The Yorx should last you years without any problems, but if service is required, you can have it serviced at any good audio store or at the Yorx service-by-mail facility.

Why not turn your favorite room into a Yorx Studio Sound Center? Order one at no obligation, today.

Code-a-phone 1500
REMOTE COMMAND
OFF
ANNOUNCE
ERASE
REWIND
START
RECORD
MESSAGES
Code-a-phone 1400
REMOTE COMMAND
POWER
IN USE
RING
CONDENSER MIC
OFF
ANNOUNCE
REC
PUSH DOWN
CHANNEL INDEX
6
CALL CONTROL

Telephone Answering Breakthrough

Get your phone calls by remote control with America's first remote telephone answering computer.

It's a telephone answering computer. The Ford Code-A-Phone 1400 has the first large-scale integration of solid-state componentry – a major change in telephone answering systems – since the first mass consumer models appeared five years ago. This means more features, lower cost, and greater dependability. Here are some of its exciting features:

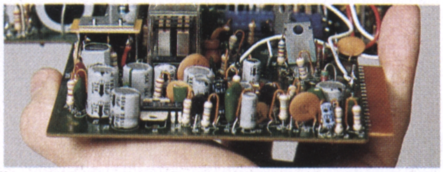
Forget about tapes There are no tapes to buy. The Ford unit has a special polymer-based magnetic tape that will record over 25,000 phone calls without replacement. That's over five solid years of use. There are no cassette tapes to buy, wear out, or replace.

Forget about microphones When you want to change or record your message, just press a red button, record your message, and let go. The message (any length up to 20 seconds) will record and be immediately ready to play back since the message tape does not have to re-cycle. There are no separate microphones or level controls since the built-in microphone automatically adjusts to your voice.

Forget about touching it You can adjust your unit to answer on either one or four rings. When the unit is set on four rings and you reach the phone before the 1400 answers, you will not activate the unit. But let us say you're outside or indisposed. No problem. Code-A-Phone will automatically answer after four rings. This means that your unit can always be "alive" in the four-ring position, so you never have to remember to set it whenever you leave your home or office.

Forget about going home Just bring your optional remote control pager with you. If you want your messages while you're on vacation or away, call your number and the coded pager will remotely signal your unit to play back all your messages.

Forget about service If you've owned a telephone answering device for more than a year, there's a good chance that it's been in for service at least once. The Code-A-Phone, however, is solid state and built with the same heavy-duty components used in commercial units. It should dependably stand up to years of heavy usage. (Ford Industries is the world's largest supplier of telephone answering equipment for the Bell system.) If service is ever required, there are over 200 authorized service centers plus a service-by-mail center. There's also a toll-free "Help-Line" number to call 24 hours a day for advice or suggestions, and your unit has a limited ninety-day parts and labor warranty.



The entire printed circuit board with its integrated circuits is easily replaceable and contains the 'brains' required to control the audio amplifier and tape transport system.

PLENTY MORE FEATURES

Code-A-Phone has a monitor feature. You can listen to the caller leave his message and pick up the phone to intercept the call. If you want to skip over a message on the tape, just tap a button and it fast-advances to the start of the next call. It has a selectable erase feature that lets you erase a specific message or the entire tape if you wish.

Hold the small pocket-sized remote-control pager up to any telephone in the world and you can play back all your messages.

KNOW HOW MANY CALLS

With other answering machines, you never know how many calls you receive until you play them back. With Code-A-Phone, you have a call counter – a device that displays the exact number of calls you've received. If you now own another answering machine, you can really appreciate this convenient and exclusive feature.

Code-A-Phone is the first really versatile answerer that works equally well at home or in the office. It's perfect for the busy or working housewife who spends little time at home. And if she's home and just plain busy when the phone rings, she can always call back later without offending the caller.

The executive can now leave his office, call from the field, and get all his messages. An inefficient operator at a telephone answering service may offend your customers by putting them on hold. Code-A-Phone, however, takes your messages quickly and without delay.

There are very few people who haven't left a message on a telephone answering machine, and callers really appreciate the convenience.

NO PHONE COMPANY TARIFFS

Code-A-Phone is equipped with an FCC-registered interconnect device so your unit is actually welcome on your phone line. The 1400 comes with a modular connector so you just plug it into your phone line. If you don't have a phone plug, just call your phone company and tell them you are purchasing an approved Code-A-Phone and that you want a modular plug for your phone. They'll know exactly what you want and charge you around $15 for the installation, depending on where you live. If you have a multi-line phone, they can install a jack to tie into any or all of the lines you wish. There are no additional monthly charges.

STANDING BEHIND A PRODUCT

JS&A lets you use the 1400 in your home or office for one full month. Use it to screen your calls; take messages while you're gone or as a back-up system when you're busy. Use the remote pager and retrieve calls while you're out. See how easy it is to change the message in seconds, and see how much it uncomplicates your life. Use it under your everyday conditions at home or at your office, and then decide after one month whether or not you want to keep it. If you decide to keep it, you'll own the best. If not, return your unit for a full and prompt refund. There is no risk.

The Code-A-Phone comes in two models: the Remote Control unit for **$239.95** (3.00) called the 1400 (Order Nr. **1400**) and the same unit without the pager but with all the other features for **$169.95** (2.50) called the 1200 (Order Nr. **1200**).

The latest model, called the 1500, includes a telephone handset and dial combining the functions of a good answering system and a single line telephone plus the remote paging capabilities of the 1400. It costs only **$289.95** (3.00 Order Nr. **1500**).

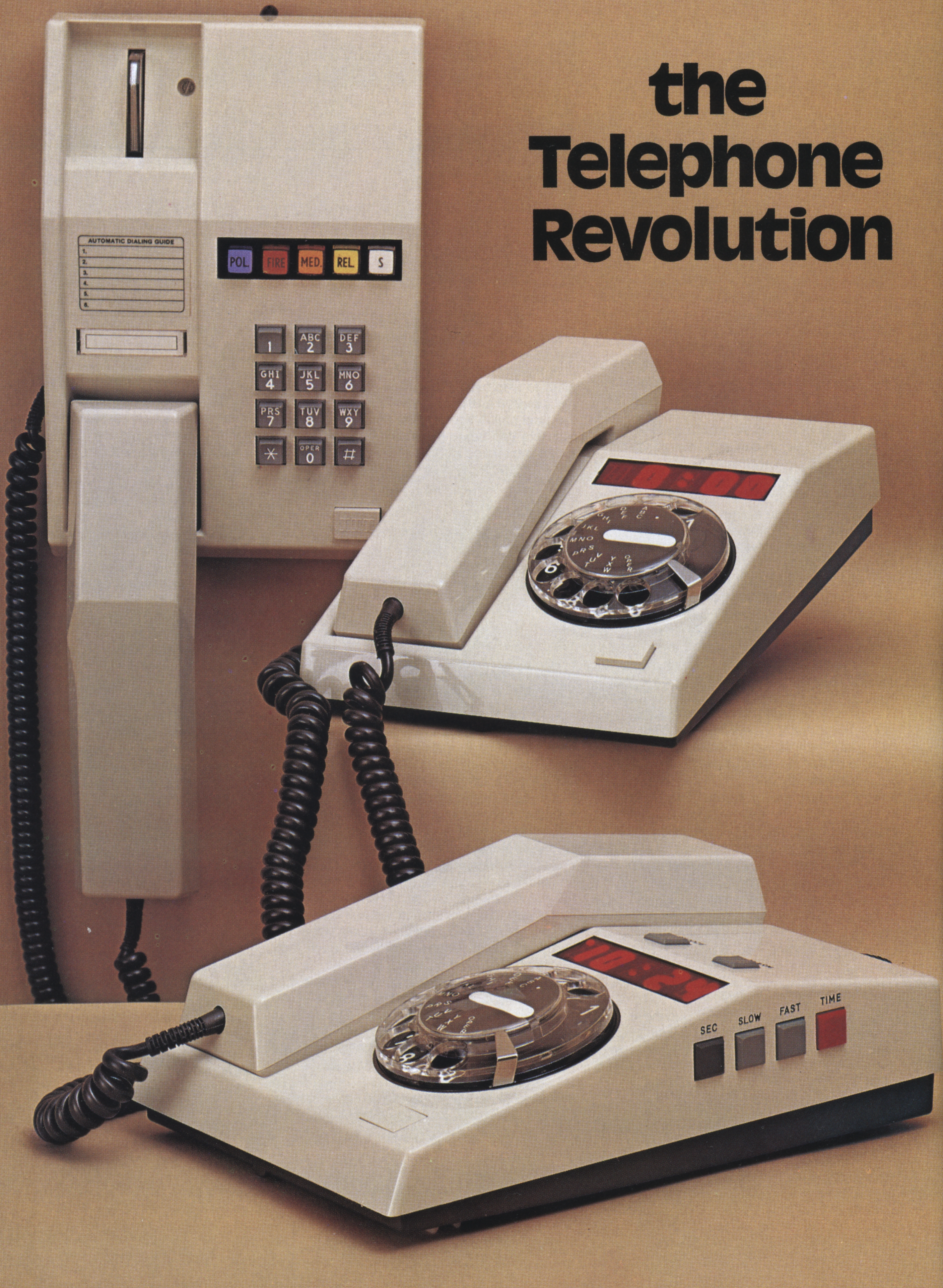
Each Code-A-Phone comes complete with all connections and instructions (extra pagers are available for the remote units for **$29.95** 1.00 Order Nr. **1100**) plus your 90-day limited parts and labor warranty. The unit measures 3¼"x 8½"x 12".

Code-A-Phone compares to units that sell for much more but do not have the simplicity and the advanced electronics of the 1400. Don't be confused. Code-A-Phone is the finest telephone answerer you can buy at any price and is years ahead of all other conventional systems.

JS&A gives you everything you could possibly expect from a telephone answering system: 1) a unit years ahead of every other unit at a very reasonable price, 2) a service network that covers the United States with repair centers and free telephone assistance, and 3) the chance to buy a unit in complete confidence, knowing that you may return it if it's not exactly what you want. You can't lose.

Computer technology has even touched the telephone answerer. Now is the best time to get the finest system available. Order your Code-A-Phone without obligation, today.

the Telephone Revolution


AUTOMATIC DIALING GUIDE
POL.
FIRE
MED.
REL.
S
SEC
SLOW
FAST
TIME

The new ITT phones were designed to either lie flat on a desk or hang from a wall.

Should you own your own phone? This article can help you answer this very costly question.

America's phone system is the world's greatest. No country can compare. But what has made our phone system even greater is the recent Supreme Court decision that permits consumers to plug in their own phones–phones that they can buy themselves.

We are now free to choose which phone we want to plug in. That creates competition, and competition usually results in lower prices, more innovative products, and better service.

We now do have lower prices and very exciting new products which we have selected as the best examples of the new telephone ownership decision. And what a change! We can remember when putting a telephone answering unit on your line almost caused you to lose your phone service.

TIMES HAVE CHANGED

The telephone companies are now so cooperative that they deserve great respect. After all, they lose money every time you plug in your own phone, so their friendly cooperation in light of their loss must be commended.

And they have made connecting your phone easier than ever before. Remember those big four-pronged jacks? Now there's a small connector which the phone company installs for around $15 (depending on your city). Where can you find an electrician or a plumber to come to your home for $15?

If you want to plug in your own phones and don't own the modular receptacles, just call the phone company and see how nice they are. Call your business office and tell them you have bought a phone. Give them the ringer equivalent number and the FCC registration number. Tell them that you want your phones removed and that they should stop charging you for them. That's all you have to do.

THEY'LL SEND REPAIRMAN

They'll gladly send a repairman to your home to attach a modular connector. If you already own a four-pronged jack, you can use a modular adapter and avoid the service charge completely.

For each of the telephone products listed in this catalog, we have also listed the ringer equivalents and the FCC registration numbers for you. This makes it easier for you when you call the phone company. They appreciate the fact that you are supplying them with all the information they need, and you'll save time by not having to call them back. You'll also be part of a very small group of consumers who can even supply this information on a first call.

The integrated circuit is now playing a very big role in telephone design. All phones listed in this catalog use integrated circuits, represent the most recent technology, and are available directly from JS&A.

HOW TO CHOOSE A NEW PHONE

You may not need nor want a new phone. There's nothing wrong with using a phone supplied and serviced by the phone company. The phone company personally services its phones at your home without charge, and they charge you very little monthly to lease them.

If you are thinking of putting in a phone, you have two very important questions to consider: 1) What would I want the phone to do that my present phone can't do, and 2) What are the real savings?

It's silly to replace all your phones. Let us say you had trouble on the line. If you have one phone company phone on the line, the phone company is obligated to come out and check out your entire system. Remember, you are still responsible for the phones you own.

And then there's the confusion caused by the number of different phones that are available. How do you know which one to choose?

SAVINGS FIRST

You must first realize that no matter what your phone company charges you a month, the phone you buy should pay for itself within five years. If not, you must then evaluate the extra features you get.

For example, the Flip Phone shown in this section sells for $49.95. If you pay even $1.50 per month to lease your phone, that translates into $90 during the five-year period. If you live in New York and have touch-tone service for $2.85 extra per month or $171 for five years, that makes the Flip Phone a real bargain. Telephone costs range from $125 to $300 during a five-year period for touch-tone service, so it is rather obvious that owning your own phone makes sense.

THE FEATURES

The ITT phones shown to the left have special features. They range from $129 to $169 and therefore really can't be evaluated totally by savings alone. But if you also realize that you get so much more value–more things than you get from your current phones–then they can be justified. One emergency call on the Security Phone would pay for the entire phone. The Timer Phone may save you hundreds of dollars on your long distance calls by constantly keeping you aware of the length of each call, and the Alarm Phone makes a great bedtime accessory.

So even the higher-priced phones make sense if they save you time, money, provide security, or just plain make life easier.

In this section of *Products That Think,* we introduce you to what we feel is the best of the new telephone technology. Although telephone products are now flooding the market, none can compare with the ones we've selected for innovation, quality, and good looks.

Each phone is manufactured by a reputable company–ITT, GTE, UVC, and Ford Industries to name a few. This is also very important. If you plan to keep your phones, it's nice to know that the companies will still be in business five years from now.

One of the nice things about buying your phone from JS&A is knowing that if you're not 100% pleased, you may return the item and get all your money back. You have the opportunity to personally test our phones right on your own telephone lines. The following are some telephones for your consideration.

The Timer Phone Ever wonder what the cost of a call is? Just pick up the handset on the ITT Timer Phone and the timer starts clicking away the seconds. If you make an outgoing call, you press a button when the call goes through. In this way, you can keep the time of the call in mind. For incoming calls, the timer starts the minute you pick up the handset. The unit is available only in a rotary dial model (Order Nr. **1300**) for only **$129.95** (2.50). The ringer equivalent is 1.4A and the FCC registration number is AS293P-62542-MT-T.

The Alarm Phone You can locate the ITT Alarm Phone right by your bed. It's an alarm clock built into your phone. Not only do you have a handy LED digital clock, but there is an alarm clock with a 9-minute repeat feature. Wake up, press the repeat button, and go back to sleep. Nine minutes later, the phone's alarm will wake you again. The alarm is available in rotary dial only and comes complete with AC adapter (Order Nr. **1302**) for only **$129.95** (2.50). The ringer equivalent is 1.4A and the FCC registration is AV792M-70502-TE-R.

The Security Phone You have the best features in ITT's finest phone. First you can store the telephone numbers of the police, fire department, a close relative, and your doctor on the top row of buttons. You can then store ten other numbers and recall them by hitting any one of the ten touch-tone keys. You often make mistakes in dialing during an emergency. With the Security Phone, if a call needs to be made in an emergency, you press just one button and your call goes through.

There's also the convenience of a ten button autodialer. Just program in any 10 of your most frequently dialed numbers and just press the correctly numbered button for dialing. When you add the cost of a conventional dialer along with that of the Security Phone emergency feature, the system really makes sense. The unit is available only in a touch-tone model (Order Nr. **1303**) for only **$169.95** (2.50). The ringer equivalent is 1.4A and the FCC registration number is AV792M-70205-TE-R.

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*Touch-tone is a registered trademark of AT&T.

The Busy Buster

Bust through busy signals.

The Busy Buster will let you get through to those hard to call numbers automatically while it cuts down on your phone bills.

We call it the Busy Buster and it works like this. Let's say you dial a number and it's busy. No problem. Hang up, press the Busy Buster button on the top of your phone, and relax. Your phone automatically and silently re-dials the number again and again until the line rings. When the line does ring, you hear an audible tone and you pick up the phone and wait for your party to answer. It's just that simple.

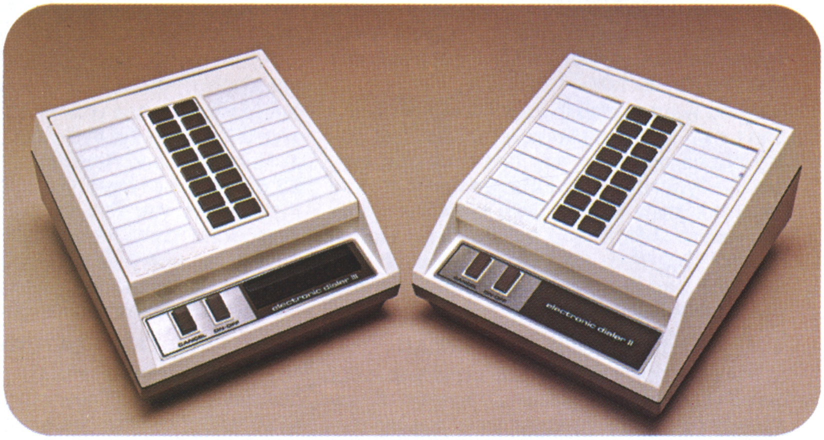
But there's more. The touch pad at the top of the phone can be used on every phone system in the United States—even on rotary dial lines. Touch-pad dialing is convenient, but there are also savings. Even if you already have touch-tone service, using the Busy Buster will eliminate the need to pay extra touch-tone charges.

If the Busy Buster hears a busy signal after dialing, it pauses 40 seconds before re-dialing. So if you must make another call, you can pick up the phone during the pause and dial out. When you replace the receiver, the phone automatically starts the cycle again by re-dialing the busy number until your call goes through. During the pause you can receive calls, so your line is not continuously tied up.

The Busy Buster costs only **$99.95** (2.50 Order Nr. **1304**) and makes an excellent replacement telephone which will pay for itself very quickly. Try one out. Call our toll-free number for the FCC registration number which was not available as we went to press. We are certain that you will find the Busy Buster a very useful tool.

The Auto Dialers

Save time and effort.



Ford Industries (the Code-A-Phone people) also manufacture an automatic dialer. The dialer makes life much simpler for people who frequently use their phones.

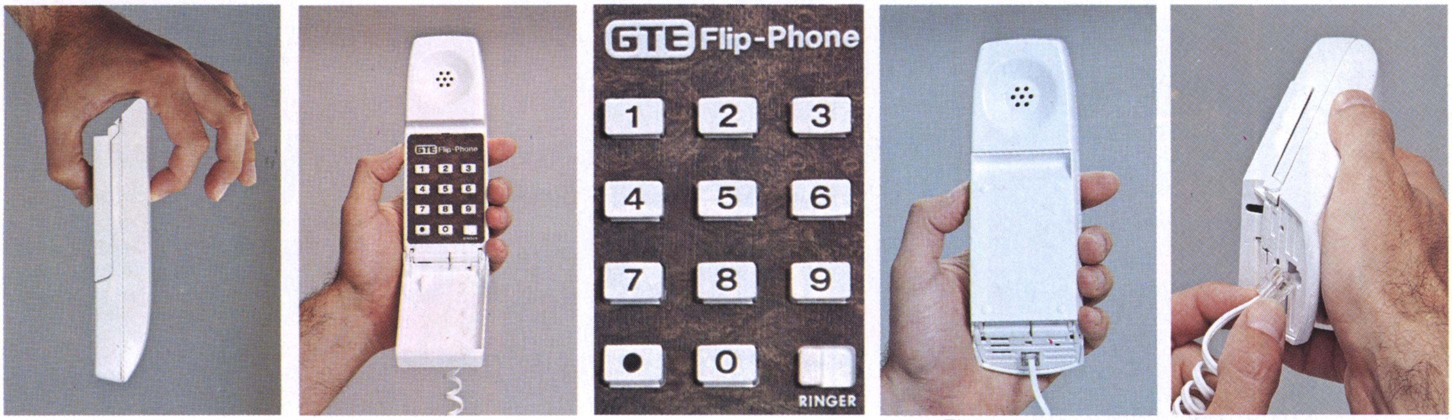
We have selected two of the dialers for our catalog. Each will store 16 numbers and recall them at the touch of a button. And a built-in battery will keep those numbers stored even during a power outage.

When you press one of the buttons to dial a number, you can hear the number being dialed and the party answering the phone. You then pick up your telephone handset and start talking. If nobody answers, no problem. Just press the cancel button, and the call is disconnected without you ever having to pick up the phone. Model III has the addition of an LED display which displays the number you are dialing or any number stored in memory.

To enter a number into the memory, you simply dial the number once and press a button. The dialer will accept up to 15 digits including the PBX pause.

The unit connects to a dual modular connector that plugs into any wall module, or if you have a four-pronged jack, simply request the special adapter on our order form.

Each dialer comes complete with a one year warranty and easy-to-follow instructions. The price for the Dialer II is **$149.95** (2.50 Order Nr. **1305**) and for the Dialer III with the LED display **$169.95** (2.50 Order Nr. **1306**). Why not see how much time and trouble you save with a dialer from Ford Industries? The ringer equivalent is 0.2B and the FCC registration number is AAA999-62594-DI-E.



The new pocket-sized Flip-Phone T.M. telephone from GTE will save consumers millions.

Dial Free

General Telephone and Electronics has a major new telephone breakthrough that will open the door to new consumer savings.

It will shortly become the most popular new phone in America. And we predict that it may even change America's telephone habits.

THE NEW PHONE

It's called the Flip-Phone and it's manufactured by General Telephone and Electronics (GTE), a supplier of phones to other telephone companies. The Flip-Phone is a major breakthrough described by GTE as "the most advanced new telephone in the last ten years."

Most telephones contain a handset (the thing you talk over) and the base (where the electronics are located). GTE was able to condense the electronics on tiny integrated circuits which have been placed in the handset making the telephone base unnecessary.

THE MISSING MOUTHPIECE

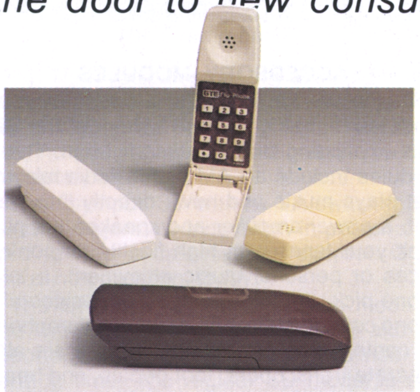
Telephones contain large magnets which add to the handset's weight. The new Flip-Phone uses a very small and lightweight condenser microphone so sensitive that it picks up your voice even better than the conventional phone with its large mouthpiece.

And then there's the dial itself. It's gone. And in its place is a keyboard – a device that lets you tap out numbers without having to dial. This is a major breakthrough for three reasons: 1) It is a very fast way to dial. 2) It works on telephone systems that do not even accept *touch-tone** dialing, and 3) Even if you owned a *touch-tone* phone, you could plug in the Flip-Phone and not be charged for the extra service. You are able to push-button dial for free.

But there are many more features that make the Flip-Phone a really important new innovation.

Privacy Switch Just flip a switch and you turn off the phone's ringer. It's ideal when you go to sleep, at dinner, or when you want privacy.

New Ring Most telephone ringers sound the same. The Flip-Phone emits an electronic warbling sound – a very pleasant tone.



The Flip-Phone comes in four standard colors: white, brown, beige and yellow.

New Cord Even the cord on the Flip-Phone is different. It's 14 feet long – twice as long as a conventional cord. One end is coiled and the other is straight and you can use either end to connect to your phone while the other end connects to the wall. And if your cord gets twisted, dirty, or plain chewed up, just unplug it and put in a new one. It's just that easy.

Low Cost The Flip-Phone costs only $49.95 which means that it will pay for itself quickly – not only with convenience, but with savings of up to $4 a month in some cities. When you determine the true cost of telephone ownership, you compare costs over a five-year period. In five years even a $2.00 telephone charge per month equals $120 or over twice the cost of the Flip-Phone.

Small Size The Flip-Phone is the size of a large stapler. When you pick it up, a panel flips open revealing the touch-pad dial, and the panel acts as a guide to funnel your voice to the condenser microphone. The Flip-Phone telephone is only 2¼" wide x 1¼" high x 7" long and weighs only seven ounces.

GTE spent several million dollars developing the Flip-Phone and we feel that it will be the single most important phone in America within a few short years.

Order a Flip-Phone directly from us. We are the only direct source to nationally distribute this exciting new phone this year.

Put one in your kitchen, in your study, in your children's room, or even in your office. You'll appreciate the convenience and savings.

If service is ever required, GTE has a prompt service-by-mail center. About the only thing that goes wrong with today's phones is the tangled cord. With the Flip-Phone, you just unplug the old cord and plug in the new one. It's just that simple.

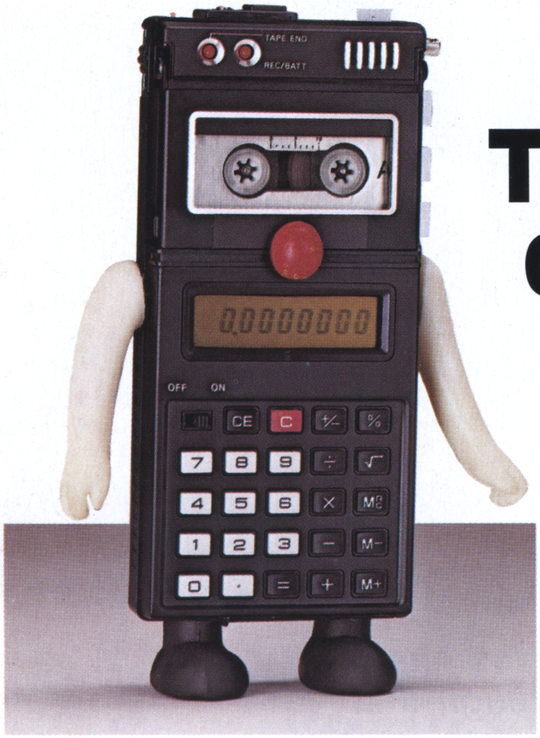
A PERSONAL TEST

We urge you to at least give the Flip-Phone a personal test right in your own home under your everyday conditions. Order one from JS&A under our 30-day trial period. Plug it in. See how easy it is to dial numbers by pressing buttons. See how good it looks and how little space it takes up. Find out how much better you sound at the other end. Then within 30 days decide if you want to keep it. If you are not convinced that the GTE Flip-Phone is a very good investment, return your phone and we'll promptly refund your money – every penny including our $2.50 postage and handling

The Flip-Phone costs only **$49.95** (2.50) and comes in four colors: white (Order Nr. **1812**), yellow (**1813**), brown (**1814**) and beige (**1815**). Just specify the color and Order Nr., and we'll send you the phone, cord, 90-day limited warranty, and simple instructions. If you have four-pronged jacks, just order the adapter plugs for $2 each and you will be able to avoid the installation charge completely. Specify the adapter plug with Order Nr. **1816**. The ringer equivalent is 1.2 and the FCC registration number is AB898Y-62927-T-ER.

Why not act ahead of the crowd and order an exciting new space-age way to cut down on your phone bills? Order your Flip-Phone at no obligation, today.

**Touch-tone is a registered trademark of AT&T.*



The Portable World of Micro recorders

There's a new generation of recording devices. Here's the latest report and our selection of the best.

Charlie, our little EM-12 robot, is just one of the new recorders being offered in this article.

The integrated circuit started one revolution and triggered another. The small circuits forced manufacturers into producing other electronic components in micro sizes.

There are now micro-capacitors, micro-resistors, and micro-motors. All these breakthroughs made possible the miniaturization that can now be found in the micro-recorders available from many manufacturers.

The units shown on these pages are the best recorders available in their respective price ranges. The Olympus units are by far the highest quality products on the market, and the Evadin models represent the most features for the dollar.

The following are descriptions of the Olympus units as we described them in a recent advertisement.

THE OLYMPUS SD

The first and most expensive unit is the Olympus SD manufactured by Olympus—the famous precision camera manufacturer.

RECORD WITHOUT BUTTONS

The unit has an optional voice activation switch (VA switch) that automatically turns on your recorder at the sound of your voice. If you dictate in your car or in your office, just talk to your unit. It does the rest. It will turn on to record your comments and turn off when you stop talking.

The VA switch has a three-position sensitivity control. You can set it for low sensitivity while driving your car so only the close proximity of your voice will turn it on. In the middle sensitivity position, you could use the unit in conferences or for dictation in your office. In the high sensitivity position, the unit records all sounds.

The VA switch has other advantages. It makes your tapes more efficient by making them last longer since your unit turns off during long pauses. So the unit's sixty minute tapes might be the equivalent of seventy or eighty minutes on other systems.

ACCESSORY MODULES

The VA switch is one of a series of small modules that plug into the bottom of the SD, thus expanding the recording system. These modules include an AM or FM radio module that plays music and news directly into your unit, a power amplifier and speaker that play back your tapes with high fidelity for conferences or personal music enjoyment, a telephone pick up that will record both sides of a phone conversation, and a clip-on microphone for conferences or speeches. There are also separate transcribers, foot pedals, and headsets available for your secretaries.

Just plug in the VA switch and you can operate the SD without pressing its record and pause controls. The basic unit measures only 1"x 2½"x 5½" and the VA switch adds another inch to its length.

MOTOR DRIVE BREAKTHROUGH

The Olympus SD has several new recording breakthroughs. The first is the new coreless motor. Conventional motors require a wire-wound long, solid core. In the Olympus coreless motor, the windings are on the outside or stationary part of the motor making it flatter. Yet it has greater initial torque and more consistent speed than any conventional unit. Because of the coreless design, the entire SD unit is lighter, flatter, and easier to carry. There is less vibration, noise, and power consumption, so your batteries last longer and your recordings sound cleaner.

RECORDING HEAD QUALITY

The unit uses ferrite for its recording heads—the same material used in precision studio recorders. This extremely hard, diamond-like material will never wear out and prevents oxide build-up on the heads. You have top recording quality without wear.

NEW MICROPHONE TECHNOLOGY

The new built-in electret condenser microphone with automatic level control is also a major design advance. Through new electronic circuitry, the impedance of the microphone remains constant, thus passing on the natural sound quality of all frequencies without distortion. The result is a clear recording with an extremely low signal-to-noise ratio, so you won't hear objectionable background hissing or humming.

VERY RUGGED UNIT

With all its quality and breakthrough features, the Olympus did not lose touch with reality—namely, that personal recorders get dropped, stepped on, and damaged. Even if you're careful, there's always a chance you may drop or damage your unit.

The Olympus SD was built with both special cushioning features and component design that permit you to literally abuse your unit while still maintaining the same recording quality. The most sensitive component has always been the motor. If a conventional unit is dropped, even a slight motor core misalignment will noticeably affect performance. With the Olympus SD motor, there is no core, so core misalignment is impossible. Olympus also maintains a prompt service-by-mail facility if service should ever be required. Just slip your 12-ounce recorder in its handy mailer and it's on its way. Service should never be required, but it's always good to know that your unit is solidly backed by a responsible service organization.

AUTO SHUT-OFF

Some units have automatic shut-off at the

2 SPEED
PEARLCORDER S301
OLYMPUS OPTICAL CO. LTD
TAPE SPEED

The Olympus S301.

MICRO CASSETTE RECORDER

The Evadin EM-11.

REC BATT
AUTO SHUT OFF
MICROCASSETTE RECORDER
PEARLCORDER SD2
2 SPEED
OLYMPUS OPTICAL CO., LTD.

The Olympus SD2.

end of a cassette during the record mode. So does the SD. But the SD also has this feature on playback, thus preventing tape stretching and battery waste. And when the unit does shut off, it's practically silent and does not attract attention.

QUALITY FEATURES

The tape is capstan driven–the best drive available in cassette recorders. It can play eleven hours on a set of two penlight batteries, and optional rechargeable batteries are also available. The Olympus sixty minute cassette (30 minutes per side) costs only $2.99 compared to $4.99 and $5.99 for other brands. This gives you the lowest cost-per-minute recording of any system available.

JS&A offers you the most important breakthrough product in micro-cassette recording. Olympus' voice activation switch and its new coreless motor, ferrite tape heads, and electret microphone mean quality, value, and advanced technology–years ahead of all others. And the price of the Olympus SD is actually less than many of today's more popular brands that do not yet have the SD's innovations.

Olympus is the company that invented the micro-recorder in 1969. Since then, they have licensed dozens of other companies to produce them–yet no unit compares with the Olympus.

But don't take our word for it. We suggest you order just the Olympus SD and the VA switch. Then use the system for thirty days. Take it with you to work, keep it in your pocket when you travel, and use it to dictate your notes. Compare the Olympus to every other unit on the market, and read all the consumer reports on recording devices. Then after thirty days, decide whether or not the Olympus will quickly pay for itself in convenience and in actual time savings. If not, then return your unit for a prompt and courteous refund. If you decide to keep the SD, you will positively own the best personal recorder sold today at any price. Then you can order any of the additional accessories available with the system from our inventory. Remember, there is no obligation, no postage and handling and you take absolutely no risk.

The Olympus SD with its VA switch represents a major new innovation in personal recording–the voice-activated recorder. Order one at no obligation, today.

The Olympus SD comes in two models–one with one hour record capability and the second, the SD2, with one or two hour recording time. The regular SD model is only **$199.95** (2.50 Order Nr. **9070**), and the VA switch is only **$29.95** (1.00 Order Nr. **9071**). The SD2 costs **$239.95** (2.50 Order Nr. **9072**), and the same VA switch that fits the SD will also fit the SD2. A complete accessory list will be sent with either model. With each purchase, you will receive 2 free tapes. You can order 12 additional tapes at **$2.99** each for only **$35.88** (1.00 Order Nr. **9073**).

The Olympus dual speed model S301 uses the same quality components as the SD models but is ⅛" thicker and less expensive–only **$169.95** (Order Nr. **9074**). If you want the quality of the SD models but do not need the voice activation switch, then select the S301. All Olympus models carry a one year limited warranty, and there is a $2.50 postage and handling charge per unit.

THE EVADIN RECORDERS

When we saw the Evadin EM-12 calculator/recorder, we saw more than just a recorder with a built-in calculator. We saw the beginnings of a little robot. So we took an old Charlie Brown doll, attached the arms and legs to the Evadin unit, and ended up with our Star Wars version of a micro recorder. (We call our Robot Charlie.)

Sorry, but we only had one Charlie Brown doll, so we can't supply you with the legs, arms or even his little red nose. We even checked with the local toy store.

Our stripped down version is still kind of neat though. It's a reel-driven micro recorder with twenty minutes per side recording time, plus a full-function calculator with percentage, square root, and memory. The calculator doesn't take any additional space, and its addition to the unit makes it just one less business tool to carry with you.

It measures only 1" x 2½" x 6" and comes with one tape. The price is only **$124.95** (2.50 Order Nr. **9075**). The legs, arms, and nose are not included. Charlie makes a great surprise gift, an excellent personal recorder, and a great aid for students.

THE EVADIN EM-11

Here's the greatest value of all the recorders we offer. It has a reel-driven tape drive, cassettes run for 20 minutes per side, and the unit measures only 1⅛" x 2½" x 6" long. The unit costs only **$69.95** (2.50 Order Nr. **9076**).

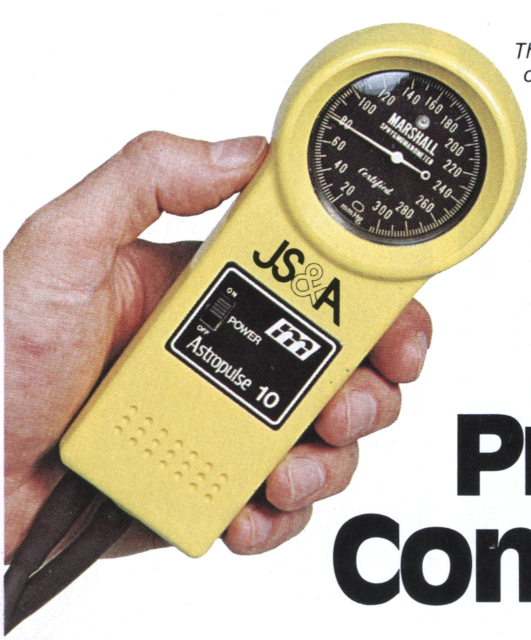
For an extra **$39.95** (1.00 Order Nr. **9077**), you can order the transcribing kit which contains a foot switch, earphones, stethoscope headset, desk stand, 2 cassettes, AC adapter, telephone pick up, and carrying case–all to convert your unit into a complete dictation system. If you're looking for value with excellent quality, you can't beat the Evadin EM-11. All Evadin recorders carry a 90-day limited parts and labor warranty.

OUR CONCLUSIONS

So there you have our micro-recorders. We have reviewed hundreds to select the five units we present to you on these pages.

We hope that you consider buying a micro recorder now and experience the convenience and quality of the recorders we've selected. Remember, you have a full 30 days to test one out and determine for yourself, in the privacy of your home or office, whether or not it meets your requirements. There is no simpler and more convenient way to buy something with complete confidence.

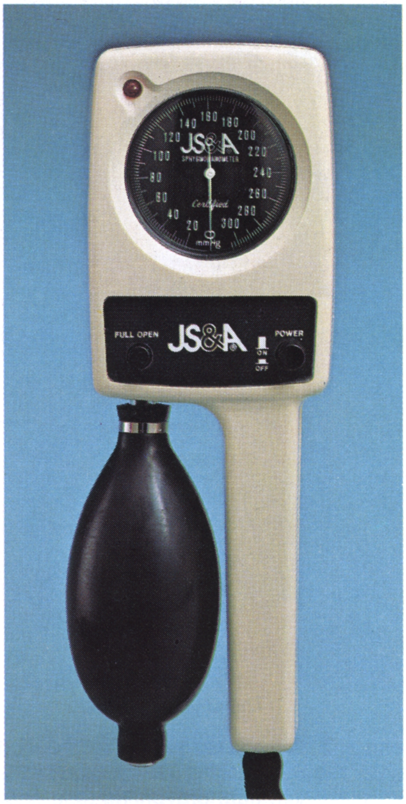
Why not order your next recorder from JS&A at no obligation, today.



The Model 10 at $49.95 represents the most outstanding blood pressure computer value.

Blood Pressure Computers

More Americans are taking their own blood pressure with today's new electronic marvels. Here's a report on two of the newest and lowest priced quality models.



The Model 11 at $69.95 is one of the most deluxe blood pressure models available.

There's a new way to take your blood pressure. Scientists have developed electronic systems that wrap around your arm, require no stethoscope, and don't even require rolling up your sleeve.

When a doctor reads your blood pressure, he uses his skill and a stethoscope to determine your systolic and diastolic readings. Now a computer can do this in the convenience of your home and on a regular basis.

DOCTORS ENCOURAGE USE

It's a good idea to know your own blood pressure. Doctors estimate that 25 million Americans suffer from hypertension and yet only half know about it.

Hypertension is high blood pressure, and high blood pressure usually goes unnoticed until serious symptoms develop–often too late to correct.

Doctors encourage their patients to regularly monitor their blood pressure, and the new electronic models make monitoring easy enough for everyone to do. Even if your health has been perfect, hypertension or high blood pressure can occur at anytime.

EASY TO USE

Taking your blood pressure is quite simple. Just slip your hand through a self-tightening velcro cuff, slide the cuff up your arm, pull the tab, and attach the tab to the velcro material. The tab will stick automatically without loosening. Then squeeze the rubber bulb to inflate the cuff, and read your blood pressure on the dial.

The two units shown above are two of the most advanced models available. The JS&A Model 10 sells for $49.95 and the Model 11 shown to the right sells for $69.95.

Both units use three integrated circuits and a microphone transducer. The microphone picks up pulses in your artery, and the integrated circuits measure the pulses and relay the information to a meter which visually displays your two blood pressure readings. There is no expensive stethoscope required, no guesswork or complicated steps to follow.

The Model 10 has a separate bulb to inflate whereas the Model 11 has the bulb built into the handle making the process a one-handed procedure. The deluxe Model 11 also has a self-bleeding release valve and a more attractive carrying case.

The units shown above also flash an LED signal and sound an audible tone at the two blood pressure readings to assist the hard-of-hearing or those with poor eyesight.

Both JS&A blood pressure units were designed to easily slip over your arm and tighten with the self-tightening bar and the velcro material. Just pull the flap and press.

Both models represent outstanding value. If you are looking for the lowest priced electronic monitor available, we recommend the Model 10. If you are looking for a more deluxe unit, we recommend the Model 11. In either case, you will own the finest.

SOLIDLY BACKED

The JS&A units are powered by a readily-available 9-volt battery supplied with each unit. The units use solid-state electronics so service should never be required. But if service is ever required, JS&A's prompt service-by-mail center is as close as your mailbox. JS&A is America's largest single source of space-age products–further assurance that your modest investment is well protected.

We recommend that you at least try a blood pressure computer without obligation for 30 days. Order one. When you receive it, see how easy it is to slip the cuff on your arm, tighten, and inflate. See how easy it is to read and monitor your blood pressure regularly. If, for any reason, you decide that you would rather return your unit within the 30 day trial period, please feel free to do so, and we will be happy to refund your money and even the $2.50 postage and handling. There is no risk.

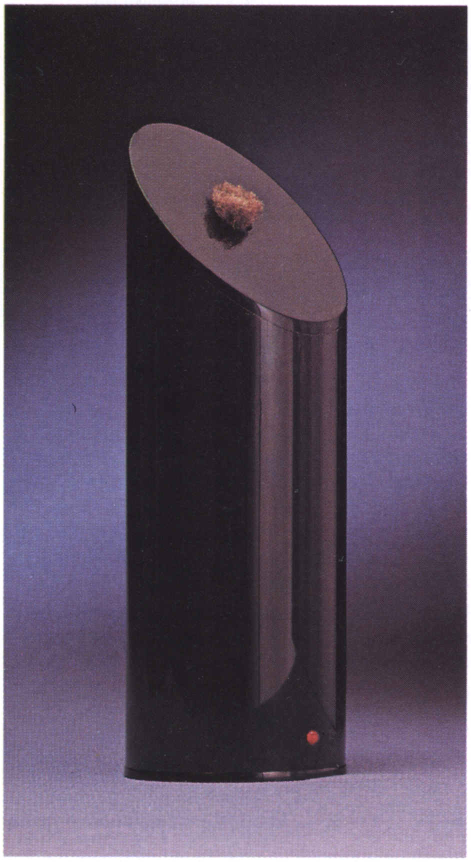
The model 10 blood pressure unit costs only **$49.95** (2.50 Order Nr. **2050**) and the model 11 is only **$69.95** (2.50 Order Nr. **2051**).

After we receive your order, we will promptly ship you your blood pressure computer, batteries, carrying case, complete instructions, and your 90-day limited warranty.

Space-age technology has made it easy to monitor your own blood pressure. Order a JS&A blood pressure computer at no obligation, today.

Miracle Fuzz

A new space-age invention and the same effect as lightning combine to create the world's first home oxygen regeneration system.



The new Energaire ionized oxygen generator will make a handsome addition to any desk.

You need oxygen to live. You can live without food for 60 days, without water for seven days, but without oxygen, you won't make it past two minutes.

That small piece of fuzz located on top of the cylinder shown above emits negatively-charged electrons which attach themselves to molecules of oxygen thus creating ionized oxygen.

You are already familiar with ionized oxygen if you've smelled the air after a thunderstorm. You feel great, revitalized, and alert. The lightning from the storm adds a small negatively-charged electron to each oxygen molecule in a process called ionization.

POSITIVE ADVANTAGES

Ionized oxygen performs several positive functions. First, it cleanses the air by attaching itself to anything floating in the air, causing it to fall to the ground.

Secondly, when inhaled, it has an effect very similar to pure oxygen. It is more readily absorbed by your system. It energizes your brain. You feel more alert and alive.

The new space-age product shown above is an oxygen ion generator called Energaire. The copper mesh fuzz on top of the unit is one of the secrets of the system.

Although it has no moving parts, you can actually feel a wind of ionized oxygen produced from the fuzz which spreads to fill an average-sized room in one minute.

EFFECTS FELT QUICKLY

A trip into the mountains exposes you to nature's freshly ionized oxygen. The Energaire produces this same effect. It will clean your room of odor-causing bacteria and stale, musty, or smoky air. Energaire will keep you alert. With a fresh supply of ionized oxygen, you will have more energy, be less fatigued, and you will sleep better.

Our polluted cities often deprive us of enough oxygen to make us feel healthy and alert. The Energaire solves this problem by providing a personal environment–an area that surrounds your body and work location with fresh ionized oxygen.

NEW SCIENCE

The oxygen ion generator is a relatively new product, yet its use in the home may make it more important than any filter system.

The Energaire is a new breakthrough. Ionized oxygen generators have been under development since the early 60's. The Energaire, using the latest in solid-state electronics, is the first cost-efficient system that produces several times the ion production of other commercial units that cost considerably more than the Energaire.

USED IN HOSPITALS

Ionized oxygen creates a germ-free environment–proven through research at several universities. Many hospitals are now converting their operating rooms and burn centers to ionized oxygen systems. Ionized oxygen also eliminates allergy-causing irritants making it ideal for homes as well as hospitals.

The heart of the Energaire is this small yet powerful component that replaces the much larger and heavier power supplies previously required by more expensive systems.

TRY THIS DRAMATIC TEST

To show the dramatic effect of ionized oxygen, take the ion generator, blow cigarette smoke into a clear bowl, and hold the bowl inverted over the system. The smoke will vanish. The charged oxygen particles appear to dissolve the smoke particles, precipitating them from the air.

In a room, Energaire surrounds you with these oxygen ions and cleans and purifies the air so even in a smoke-filled room, you will be breathing clean, country-fresh air all day long.

Ionized oxygen should not be confused with ozone. Ozone has a molecular formula of O_3, whereas the molecular formula for ionized oxygen is O_2 with a negatively charged ion.

DRAMATIC LIFE CHANGES

Working in an ionized oxygen environment, you think clearer, are more alert, and your brain functions better. In actual brain wave tests, there was an increase in alpha waves when ionized oxygen was used, indicating greater alertness, deeper relaxation, less stress, and more creative brain functioning.

The Energaire is actually a miniature lightning machine. The minute you plug it in, energy is converted into ionized oxygen. This efficient system uses one watt of power or less than a penny per week to operate, so you leave it on continuously.

We are so impressed with the pleasant effect of Energaire that we urge you to personally test it yourself in your home or office.

Order one at no obligation. Put it by your desk, or in any room where you spend a great deal of time. See if it doesn't make you feel better or make you more productive. See how it rids your room of allergy-causing particles and freshens the air.

SLEEP EASIER

At home, use the Energaire to reduce odor-causing bacteria. Use it by your bed and see how fresh, country-like air makes you sleep easier, deeper, and more relaxed.

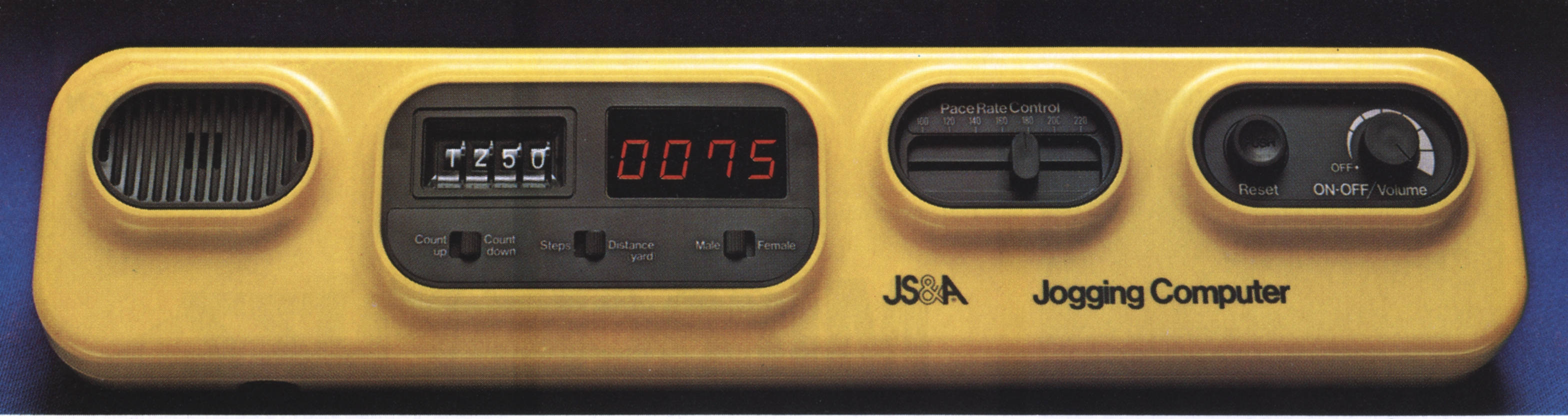
You should notice the difference within one day–especially in a work environment. But use it for a full month. Then, if you do not feel better and totally convinced of the positive effects of ionized oxygen, return your unit for a prompt and courteous refund.

The Energaire is manufactured by the Ion Foundation, one of America's leading ion research laboratories.

Service should never be required, but if it is, there's a prompt service-by-mail center as close as your mailbox–further assurance that your modest investment is well protected. The Energaire measures 9" high by 3" in diameter and weighs 24 ounces.

Your Energaire ionized oxygen generator costs only **$69.95** (3.00 Order Nr. **9422**). Order one. We will send you your Energaire ion generator complete with 90-day limited warranty on the electronics, a five-year limited warranty on the fuzz, and full instructions.

Let space-age technology revitalize your life with the world's first home ionized oxygen generator. Order one at no obligation, today.



The control unit of the JS&A Jogging Computer.

Jogging Computer

It's a fact. You reach your physical peak at age 25 and your mental peak at age 40. From then on, it's downhill. But it needn't be. A 50 year old who exercises regularly can be healthier and in better physical shape than the average 25 year old.

When you're physically healthy, you are alert and better able to handle stress. You are better motivated and just plain happier. Jogging can keep you in good physical shape.

A NEW JOGGING COMPUTER

There is now a new, easy way to jog. The new JS&A Computer is a solid-state system that lets you jog in place in the comfort of your own home. It's easy to use and convenient.

You simply set the distance and pace you wish to run and press the start button. An audible beep tone sounds, and you jog in place to its rhythm. Each stride is registered on a large LED read-out in the control unit, so you can see how far you've run. You can measure your distance by yards or by strides by just flipping a switch.

You jog on a large pad with sensors which register each stride. The pad is designed to feel like grass or soft earth, so you can run either barefooted or with gym shoes. The idea is to gradually increase your distance and speed each day to build up your endurance.

Getting yourself to start jogging is often the hardest step. That is why the JS&A Jogging Computer is an ideal system for both the beginner and the experienced jogger.

FOR THE BEGINNER

The first time you step on the Jogging Computer, you run at a pre-selected pace and distance for approximately five minutes. (A chart will show you which speed to select based on your sex and age.) You then take your pulse rate for one minute by touching your wrist. The pulse/rate chart determines the settings and distance you should run the next time you jog.

You could be in poor, average, or good shape, and this simple five minute test will accurately tell you. Start the jogger at the distance indicated on the chart, and gradually build up a little each day. In just one week, you'll notice the difference, feel great, have greater endurance, and you won't tire as easily. That is what's so nice about the system–how quickly it shapes you up.

FOR THE EXPERIENCED

If you jog regularly, you know the many benefits of jogging. But you also know the disadvantages–all overcome by owning a JS&A Jogging Computer. For example:

Forget about the ritual You wake up early, drive to your favorite indoor track, change clothes, and you're ready to run. With the Jogging Computer, just step out of bed and start running. The time you save in preparing to jog can be substantial.

Just set the pace you wish to run, and the JS&A Jogging Computer emits an audible beep that you jog in time to.

Forget about the boredom Running around a track can be quite boring. And if you count laps, how many times have you lost count? With the Jogging Computer, you can forget about counting, as the unit does it automatically for you. You can concentrate on problems or take flights of fancy–all while you strenuously exercise.

Forget about the weather Even in summer, there are days when you can't jog outdoors. And in a daily exercise program, you must resort to the indoor track. Not so with the Jogging Computer. It's always there when you need it–portable and ready to operate.

The Jogging Computer is powered by four "C" cell batteries and requires no AC power so it goes anywhere–on your patio, in the garage or basement, or at your office. The control unit can be propped up with its built-in easel or placed on a wall using the six foot expansion cord. It's portable, so after you've run a few miles, just turn it off and put it away. There's no large exercise device to take up space.

The JS&A Jogging Computer is all solid-state, and the 17"x 22" pad was pre-tested to take years of constant, hard pounding under all conditions. Service should never be required, but if anything ever does go wrong, JS&A's service-by-mail center will have it repaired and back to you in a matter of days. Be assured that we stand solidly behind our product's quality, construction, and design.

We suggest that you order the JS&A Jogging Computer and use it for 30 days. Jog each day when you get up in the morning or before dinner. Enjoy the thrill of feeling your endurance build. Experience the convenience and fun. See how much better you feel and how much sharper you think. Then after 30 days, measure your progress. If you don't find the JS&A indoor jogger a convenient and fun way to stay trim and healthy, then return your unit for a complete and full refund including the charge for postage and handling.

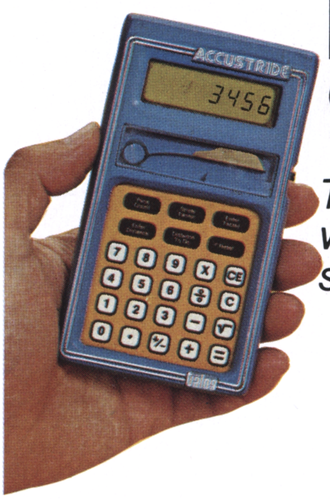
There are two versions of the JS&A Jogger. The first consists of just the control unit shown above. It costs only **$129.95** (3.00 Order Nr. **2500**). It emits a tone and automatically clicks off the paces or yards as it beeps. With this version, you can jog in place on any surface as the control unit sets the pace and you jog to it.

The second model (the one described in this article) costs only **$169.95** (4.00 Order Nr. **2501**) and comes complete with a jogging board that registers only the actual distance you have jogged. Both versions have a one year limited warranty.

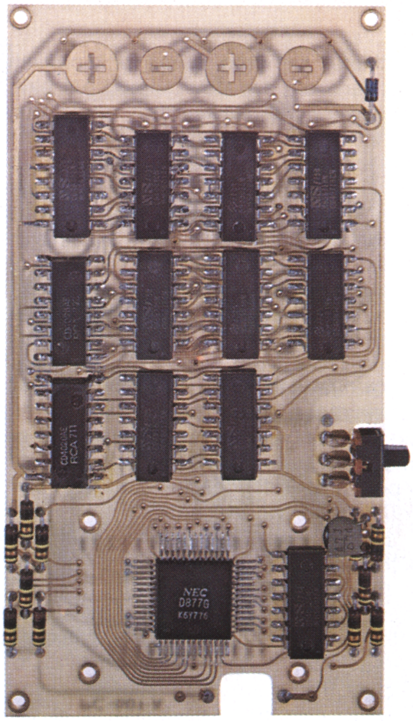
Start today on an organized physical fitness program using the latest in space-age technology. Order your JS&A Jogging Computer at no obligation, today.

Body Speedometer

Turn your body into a speedometer with the world's first distance sensing computer.



Accustride model used for photography was prototype and photograph may show slight blemishes.



The circuit board of the Accustride contains 12 integrated circuits and a microprocessor.

You're jogging. You don't know how far you've run. Suddenly you pull out a small calculator device from your pocket, glance at the display, and you know exactly.

A dream? Not anymore. American scientists have invented the Accustride–a distance sensing computer that measures distance and computes your speed. Here are some of its many uses:

For Joggers Know your speed, distance, pace, or how many feet or miles you have to go. Now you can run on any indoor track or explore new scenery–anywhere, and you'll know exactly how far you've run. The Accustride is also ideal for jogging in place during bad weather.

For Golfers The Accustride tells you exactly how far you've hit a ball and the remaining distance to the green for each shot. It teaches you how to measure distances accurately. Professional golfers have depended upon accurate distance information to perfect their games, and Accustride provides that information as you play. You can also use it as a calculator to figure out your handicap or winnings at the end of the game.

For Real Estate The idea for Accustride was developed by a real estate broker for measuring vacant land or the inside areas of warehouses. It's accurate for even small distances and it's convenient as a calculator–ideal for the real estate industry.

For The Elderly Many doctors recommend a specific exercise program of daily walks for their elderly patients. The Accustride will measure the distance of these walks and make them even more fun.

For The Hobbyist Ever wonder how far you walk in a day? Or the distance from point to point? The Accustride can be used for everything from time and motion studies to measuring distances while horseback riding.

NEW INERTIA SENSOR

The Accustride is an American-made and patented calculator device with a unique motion-sensing system that measures the vibrations caused by walking or jogging and then converts these vibrations to distance measurements.

The motion-sensing system consists of an inertia sensor which is tied into a microprocessor circuit. The vibration caused by each stride you take is registered and then shown on a calculator display.

Part of the sensor consists of a gold-plated reed switch, the same device used in commercial airline computers. It is encased in nitrogen and, because it is magnetically controlled, it will last for over 10 million switching functions–a highly reliable and expensive system.

TAKES REAL ABUSE

Let's say that while jogging, you bounce off stride causing a light extra vibration. The computer won't register the false impulse since it has a special discriminator circuit which distinguishes between a real stride and a false reading.

> *Jog with a really precision measuring instrument and see some new terrain.*

But let's face it. When you jog, there's always the chance of dropping the computer. What happens then? The Accustride was designed to take abuse. The inertia sensor and the entire circuitry, case, and battery system are shock resistant and designed for the abnormal accidents a jogger might encounter.

HERE'S HOW IT WORKS

First you have to determine your own personal stride factor or the actual length of one stride or step. You do this by pressing a key, walking or jogging a distance, entering the distance, pressing another key, and the display will show you the number of steps you took and the average length of your stride to a thousandth of an inch.

Once you have your own personal stride factor, that's all you need. Every time you jog or walk, you enter that same factor and press a button to set the system in motion.

You can measure distance in feet, yards, tenths of a mile, kilometers or whatever unit of measure you choose–and measure that distance to within one tenth of one percent. By entering the length of time you jogged or walked, you can determine your speed. And you can do this while in motion. The Accustride is also ideal for marathons or any competition where knowledge of your position is important.

The unit uses a large liquid crystal display so it can be used outdoors, even in sunlight. It is also very light–only six ounces, so it's easy to carry with you. The Accustride can also be used as a conventional calculator and measures only ⅝"x 3"x 5¼".

SEE FOR YOURSELF

We suggest you order the Accustride on a trial basis. Take it for a walk or take it with you the next time you jog. Hold it in your hand while you run and watch the distance accurately click off. Put it in your pocket or clip it on your belt or shorts. Use it to measure distances and see how extremely accurate it is. Keep it on all day and see how much you actually walk.

Then after a real personal workout, decide if you want to keep it. You must be absolutely convinced of its quality, accuracy, and fun, or return it within our 30-day trial period for a prompt and courteous refund. You can't lose.

The Accustride is manufactured by Talos Systems, a company that specializes in the manufacture of sophisticated computer measuring devices.

Your Accustride has a limited one-year warranty. If service should ever be required, JS&A's prompt service-by-mail facility is as close as your mailbox. Your unit will be promptly repaired and returned during and after your one-year limited warranty.

To order your Accustride, simply send your check for **$69.95** (3.00 Order Nr. **0900**).

Thanks to space-age technology, Americans can measure distances as accurately as the onboard computer of a large airliner. Why not order your Accustride at no obligation, today? *Deliveries start in December, 1978.*

Computer Scale

Add some fun to losing weight with a new, extremely accurate and easy-to-read digital scale.

Losing weight is not easy. Ask anyone.

One of the few pleasures of losing weight is stepping on your bathroom scale and seeing positive results. Your bathroom scale is like a report card – a feedback mechanism that tells you how well you've done.

JS&A's new American-made platform scale is the newest and best way to weigh yourself. In the first place, it's accurate to within one pound. (Most platform scales are accurate to within three pounds.) Secondly, it has an easy-to-read, large LED (light-emitting diode) display. There are no balance beams or fine lines to interpret. And finally, it is easy to use – just step on it and read your weight. There's no guessing as your weight, up to 300 pounds, is flashed on the display.

EASY TO USE

Simply tap the activator bar in front of your scale with your toe, and the unit turns on. Step on the scale and read your weight. Seconds later, the scale shuts off automatically. By sliding a switch, you can weigh yourself in kilograms – an important feature since the US is changing over to the metric system.

The accuracy is not affected by temperature or humidity like other scales since the unit's 77 spring is pre-calibrated and sealed at the factory. This is important, for it means that each time you step on the scale, you'll know what you've lost is weight and not your scale's accuracy.

The best way to see the difference a really good scale makes in your weight reduction program is to try a JS&A scale for one month. We give you that opportunity with our free 30-day trial period. Weigh yourself every day. See how easy it is to read your exact weight loss on a daily basis. Soon, stepping on your scale becomes a fun experience for your whole family, and everyone starts watching his or her weight.

Service should never be required (other than yearly battery replacement), but JS&A's prompt service-by-mail facility is always ready to service your unit.

HOW TO ORDER

You can order your platform computer scale by sending us your check for **$49.95** (3.50 Order Nr. **2080**). Credit card buyers may call our toll-free number.

You'll receive your scale, four pen-light batteries, and your 90-day limited warranty. If you do not find that the JS&A scale is the best way to weigh yourself – far better than any scale you presently have in your home – then return it within 30 days for a prompt and courteous refund which will include your $3.50 postage and handling. You can't lose, even if you just try the scale.

WEIGHING BY COMPUTER

The age of weighing yourself by computer is here now. See how much fun losing weight can be with your own solid-state digital scale. Order one at no obligation, today.

Hospital Computer Scale

The Bearly Company makes a Hospital Computer scale for $350. It's an extremely accurate system that weighs you to within one tenth of a pound up to 400 pounds. Since many consumers have bought them from JS&A, we have decided to offer them in our program.

WORKS LIKE A COMPUTER

You press a button to electronically register a true zero position. You then step on the scale, and your body weight causes a minimum friction disc to rotate. Two photo transistors sense the speed of the disc and its direction and feed this information into the unit's computer. The computer then interprets this data to within a tenth of a pound accuracy and activates the large eight tenths of an inch LED read-out display located directly in front of you.

The entire process takes a fraction of a second and is the fastest way to accurately read your weight. The only moving part, the rotating disc, is heat treated to last a lifetime, so there are no parts to wear out nor is there any maintenance required except for yearly battery replacement. The Hospital Computer scale comes complete with four nine-volt batteries. Only **$350** (4.00 Order Nr. **2085**).

Burglar Alarm Breakthrough

A new computerized burglar alarm requires no installation and protects your home or business like a thousand dollar professional system.

It's a security system computer. You can now protect everything–windows, doors, walls, ceilings and floors with a near fail-safe system so advanced that it doesn't require installation.

The Midex 55 is a new motion-sensing computer. Switch it on and you place a harmless invisible energy beam through more than 5,000 cubic feet in your home. Whenever this beam detects motion, it sends a signal to the computer which interprets the cause of the motion and triggers an extremely loud alarm.

The system's alarm is so loud that it can cause pain–loud enough to drive an intruder out of your home before anything is stolen or destroyed and loud enough to alert neighbors to call the police.

Unlike the complex and expensive commercial alarms that require sensors wired into every door or window, the Midex requires no sensors nor any other additional equipment other than your stereo speakers or an optional pair of blast horns. Its beam actually penetrates walls to set up an electronic barrier against intrusion.

NO MORE FALSE ALARMS

The Midex is not triggered by noise, sound, temperature or humidity–just motion–and since a computer interprets the motion, the chances of a false alarm are very remote.

An experienced burglar can disarm an expensive security system or break into a home or office through a wall. Using a Midex system there is no way a burglar can penetrate the protection beam without triggering the loud alarm. Even if the burglar cuts off your power, the four-hour rechargeable battery pack will keep your unit triggered, ready to sense motion and sound an alarm.

ARRIVE HOME SAFE

There's personal danger in arriving home and finding a burglary in progress. And, if you surprise the burglar, you risk the chance of serious injury. With the Midex 55 protecting your home, you can open your front door with the confidence of knowing that no burglar lurks inside.

When the Midex senses an intruder, it remains silent for 20 seconds. It then sounds the alarm until the burglar leaves. One minute after the burglar leaves, the alarm shuts off and resets, once again ready to do its job. This shut-off feature, not found on many expensive systems, means that your alarm won't go wailing all night long while you're away. When your neighbors hear it, they'll know positively that there's trouble.

PROFESSIONAL SYSTEM

Midex is portable so it can be placed anywhere in your home. You simply connect it to your stereo speakers or attach the two optional blast horns.

Operating the Midex is as easy as its installation. To arm the unit, you remove a specially coded key. You now have 30 seconds to leave your premises. When you return, you enter and insert your key to disarm the unit. You have 20 seconds to do that. Each key is registered with Midex, and that number is kept in their vault should you ever need a duplicate. Three keys are supplied with each unit.

As an extra security measure, you can leave your unit on at night and place an optional panic button by your bed. But with all its optional features, the Midex system is complete, designed to protect you, your home and property just as it arrives in its well-protected carton.

The Midex 55 system is the latest electronic breakthrough by Solfan Systems, Inc.–a company that specializes in sophisticated professional security systems for banks and high security areas. JS&A first became acquainted with Midex after we were burglarized. At the time we owned an excellent security system, but the burglars went through a wall that could not have been protected by sensors. We then installed over $5,000 worth of the Midex commercial equipment in our warehouse. When Solfan Systems announced their intentions to market their units to consumers, we immediately offered our services.

COMPARED AGAINST OTHERS

In a recent issue of a leading consumer publication, there was a complete article written on the tests given security devices which were purchased in New York. The Midex 55 is not available in New York stores, but had it been compared, it would have been rated tops in space protection and protection against false alarms–two of the top criteria used to evaluate these systems. Don't be confused. There is no system under $1,000 that provides you with the same protection.

YOU JUDGE THE QUALITY

Will the Midex system ever fail? No product is perfect, but judge for yourself. All components used in the Midex system are of aerospace quality and of such high reliability that they pass the military standard 883 for thermal shock and burn-in. In short, they go through the same rugged tests and controls used on components in manned spaceships.

Each component is first tested at extreme

(Continued on page 21)

Space Pagers

Control your entire home from your pocket with the world's first micro electronic remote space pager.

You're in bed. It's late at night and you're watching TV. It's time to shut off your TV, so you reach for a remote control device, press a button, and off it goes.

That's not unusual. But what is about to invade the typical American home will be.

AMERICA WILL NEVER BE THE SAME

Scientists have developed the technology to individually page any light or electrical appliance in your home and command it to go on or off from a device that fits in your pocket.

Remote paging requires no special home installation since it utilizes your existing household wiring system and small inexpensive modules that plug into your wall outlets.

The system is also very inexpensive. It costs only $13.95 per module to control any light, only $14.95 for any appliance, and less than $100 for a complete paging system.

WHAT IT WILL DO

Remote space paging will perform many useful functions that will pay for your modest investment.

Security From your bed, you can turn on all the interior lights, your exterior lights, and sound an alarm to warn your neighbors.

Safety From your car, you can open your garage door, turn on all the exterior and interior lights, and turn on any electrical appliance before you enter your house. You won't risk your life by surprising a burglar.

Savings You can turn on your air conditioning system or turn up your heat just before you arrive home simply by phoning your home. The savings in energy will practically pay for the system itself.

Convenience Wake up in the morning to a hot cup of coffee, the TV, and a car that's ready to go as you tie space paging in with a computerized timing system.

HERE'S HOW IT WORKS

Space paging is easy to understand. You hold a pager in your hand and press a number on a calculator-type keyboard. When you press that number, your keyboard sends out a digital signal that is picked up by the electrical wiring system in your home.

The digital signal pages only those wall modules set to the number you keyed. If you page a light, for example, you can also page it to turn on, off, or you can even dim it (just like the dimmer switch you have on your wall). You can page an appliance such as your coffee maker or toaster to turn either on or off. There are up to 16 different electrical devices you can control with your pager.

A PERSONAL SYSTEM

Because it is so easy to use and so inexpensive, you can start with just a few modules and expand later. There are modules that plug into your outlets and modules that replace your present wall switches. The system can be set for hundreds of different codes, so even if your entire neighborhood has space pagers, you will be able to privately use yours without any interference.

FOUR COMMAND SYSTEMS

To make space paging work, you need a device to generate the digital code and another device to receive and transfer the signal to your household wiring. There are four systems available to do this–all adding a degree of versatility to the concept.

Direct The direct system consists of a control unit at $39.95. The control unit is plugged into the wall and placed by your bed or at any location you select. To open, close, or dim a light, you press the appropriate number and press the function you want to perform. You also have the option of using the system with a remote ultrasonic pager. You point the pager at the control unit and enter the command. The remote pager lets you move about a room or area and is an optional accessory of the direct system at only $19.95.

Radio-Controlled The radio-controlled system costs $100 and consists of a pager that sends out a digital signal that is picked up directly by your household wiring. You can be a few blocks away from your home and open your garage door, turn off the security system, and turn on the lights. This unit is fully compatible with the direct system, and you can have both in operation–one by your bed and the other in your car. It is currently being reviewed by the Federal Communications Commission and, if approved, will be available by February, 1979. If you order this system, please realize that the radio-controlled pager will not be available until February or March of 1979 and is subject to FCC approval.

Timer-Controlled The timer-controlled unit costs $49.95 and consists of a digital clock and a memory. You can program the exact time you want each light or appliance to turn on or off. You also have a "dynamic living pattern" switch which controls the lights randomly and automatically to make it look like you are home while you are away or on vacation. You can now have your TV wake you up, your coffee started, and even your car warmed up in a set sequence every morning. It's like having your own invisible robot.

Phone-Controlled The phone-controlled system consists of a device that can be used by itself. You simply call your home and by using an optical tone generator or the tones on your telephone, you signal your system remotely. You can turn up your heat or turn on your air conditioner. You can start the roast, turn on the lights, or even record your favorite show on your video tape recorder. The cost for this accessory is only $100 and it will be available next summer if approval for its use on the phone lines is received from the Federal Communications Commission.

The important points about the above four systems is that they are all compatible and can be purchased separately over a period of time.

TRY THE SYSTEM NOW

We recommend that you purchase a series of modules, wall switches, and the direct system as these components are available right now and will not become obsolete. A good starter package consists of one plug-in module for a plug-in light at **$13.95** (Order Nr. **3011**), two modules for appliances at **$14.95** each (Order Nr. **3012**), one wall switch for **$14.95** (Order Nr. **3013**), and the control unit

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CONTROL UNIT

for **$39.95** (Order Nr. **3010**). The total cost for the package is **$98.75** complete. If you wish to order the remote pager, it costs **$19.95** (Order Nr. **3014**). If you wish to order just the starter package, use Order Nr. **3015**. Postage and handling will be $2.50 for each order no matter how many modules or receiving control units you purchase.

When you receive the package, set the plug-in wall modules to specific numbers. Plug in a light. See how you can turn on and off or even dim the light. Connect your outdoor lights to the wall switch.

Then plug your TV and your coffee maker into one of the appliance modules. Plug your control unit into the outlet by your bed. When you're ready to go to sleep, turn off the outdoor and indoor lights, the TV, and go to sleep.

The next morning, turn on the lights, the TV, and the coffee maker from your bedside. Get dressed, and when you arrive at the kitchen table, sit down to a hot cup of fresh coffee.

Let's say you're in the living room and the lights are plugged into the modules and the control unit is in the bedroom. No problem. You can override the system by turning the lights on or off manually at your lamp switch.

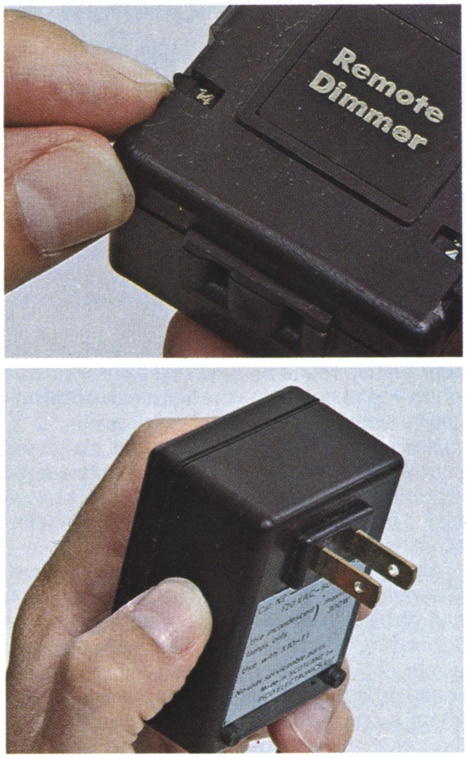
After you experience the convenience of space paging, think of how you can expand the system inexpensively, adding modules to more of your lights and to your wall switches so that you can control your remaining exterior and interior lights. Visualize the security that can be yours once you can control all your lighting and electrical appliances from one central location. Then order more wall switches and light and appliance modules. If you want to control your lighting from two central locations, order another control unit or order the entire system you want with your first order.

Once you've turned your bedroom into a paging command center, there are two more expansion possibilities: the timer-controlled and the radio-controlled systems. Both will be available early in 1979 when approval is received from the FCC and JS&A customers will be advised first of their availability.

The entire system is a product of BSR, a substantial English company famous in the United States for its audio equipment.

Space paging will bring you freedom, security, convenience, and peace of mind. It will save you steps, time, and money. Finally, right from your bed, you can control your entire home's electronics—something that only a thousand dollar home computer could have done until the space pager was developed.

Let space-age technology turn your house into a home of the future. Order your space pager system at no obligation, today.



Just set the number and plug the remote module in the wall. There's absolutely no installation required.

Burglar Alarm Breakthrough

(Continued from Page 19)

tolerances and then retested after assembly. The entire system is then put under full electrical loads at 150 degrees Fahrenheit for an entire week. If there is a defect, these tests will cause it to surface.

PEOPLE LIKE THE SYSTEM

Wally Schirra, a scientist and former astronaut, says this about the Midex 55. "I know of no system that is as easy to use and provides such solid protection to the homeowner as the Midex. I would strongly recommend it to anyone. I am more than pleased with my unit."

Many more people can attest to the quality of this system, but the true test is how it performs in your home or office. That is why we provide a one month trial period. We give you the opportunity to see how fail-safe and easy to operate the Midex system is and how thoroughly it protects you and your loved ones.

USE IT FOR PROTECTION

Use the Midex for protection while you sleep and to protect your home while you're away or on vacation. Then after 30 days, if you're not convinced that the Midex is nearly fail-safe, easy to use, and can provide you with a security system that you can trust, return your unit and we'll be happy to send you a prompt and courteous refund. There is absolutely no obligation. JS&A has been serving the consumer for over a decade—further assurance that your investment is well protected.

A WORTHWHILE INVESTMENT

The Midex system costs only **$199.95**(3.00 Order Nr. **3040**). Order one. By return mail you will receive your system complete with all connections, easy-to-understand instructions, and a one-year limited warranty. If you do not have stereo speakers, you may order the optional blast horns at **$39.95** each (2.00 Order Nr. **3041**), and we recommend the purchase of two. If you order everything at one time, there is only a $3.00 postage and handling charge for your entire order.

A COMPLETE PROGRAM

With the Midex 55, JS&A brings you: 1) A system built with such high quality that it complies with the same strict government standards used in the space program, 2) A system so advanced that it uses a computer to determine unauthorized entry, and 3) A way to buy the system, in complete confidence, without even being penalized for postage and handling charges if it's not exactly what you want. We couldn't provide you with a better opportunity to own a security system than right now.

Space-age technology has produced the ultimate personal security computer. Order your Midex 55 at no obligation, today.

JS&A, through its sales of Midex burglar alarms, protects more homes in the United States than any other security company or retail sales chain. Consumers appreciate the privacy of ordering their security system through the mail. The Midex is the best-selling home security system in the United States.

Sonar Burglar Alarm

A self-contained portable burglar alarm protects small areas effectively.

Most burglars don't like to be surprised. A loud noise or a burglar alarm will usually scare them away.

The new Sentry is a small self-contained battery-powered burglar alarm system in a small speaker cabinet.

It projects a 20 foot sonar beam which will sense any movement or mass. Once motion is detected it sounds a 90 db horn, located in the unit, for 1½ minutes and then shuts off. If motion is still detected, it will recycle and sound its alarm again for 1½ minutes.

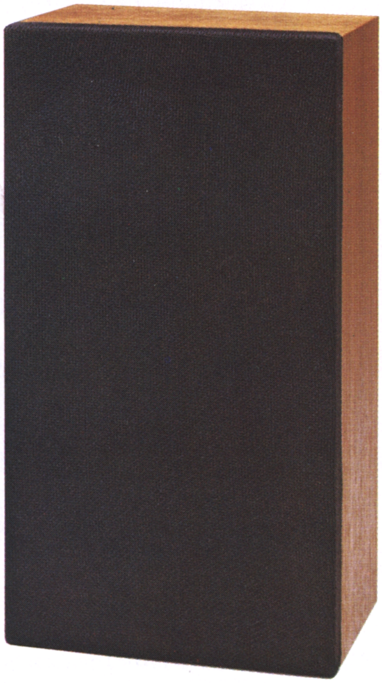
The horn is so loud that it will scare a burglar right out of your house. But it won't surprise you. You have 15 seconds to disarm the horn and turn the unit off with the key. When you leave you simply turn it on, and it remains in a neutral mode until there is no movement for 15 seconds. Then it activates.

The Sentry is battery-operated and self-contained, so there's absolutely nothing to connect nor plug into a wall. It looks like a small walnut speaker, so it goes well in any room, and a burglar would never suspect that it was the source of all that noise. The unit measures only 4½"x 8¼"x 3¼" deep and requires four readily-available 'C' cell batteries which last for approximately six months.

The system operates on the principle of high frequency sonic detection. When triggered, the unit emits sonic bursts every 200 milliseconds which cause frequency echos. The echos received from one cycle are then compared with those of the previous cycle and analyzed by the unit's electronics. If a change in frequency is detected (which indicates a change in mass or motion), it waits 15 seconds and sounds an alarm.

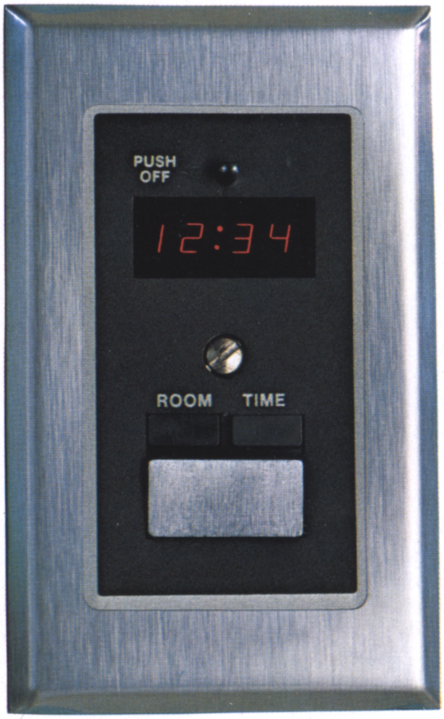
The Midex system shown on page 19 is designed to both scare off the burglar and warn your neighbors. It is four-times louder than the Sentry and has a larger range. We felt, however, that there was a need for a unit for people who wanted something inexpensive and portable—a unit that could be moved from place to place and that would scare off an intruder. The Sentry's db sound (at 10 feet) is quite effective and a 20 foot area is large enough for many homes or businesses.

The portability is a nice feature. You could put one in your camper, your summer home, your yacht, or even your airplane. If you want to protect key areas in a very simple yet efficient way, we recommend the Sentry. It's a very practical way to ensure security. Order one at no obligation, today. **$129.95** (3.00 Order Nr. **3060**).



Security Switch

A new switch dynamically controls your lights and adds a touch of space-age elegance to any home.



It's just another very clever application of solid-state technology to a new area.

You know those security timers that turn your lights on and off while you're away? They are supposed to be a deterrent to burglars and vandals because they give your home a lived-in appearance.

But any halfway experienced burglar can see the difference between the lights you use when you're home and the lights you use when you're away.

Now a new space-age device programs your lights to respond to a pre-determined, yet random living pattern. And unlike the devices that fit into an electrical outlet, this device simply slips into your existing wall switch.

A built-in LED digital clock displays the time. When you leave, you turn the switch on. You can choose between five different programs depending on the room you're in. Just as you would set an LED watch, you tell the built-in micro-processor which room you're in by entering a number. Then the lights controlled by the switch in that room turn on and off just as if the room were being used on a daily basis.

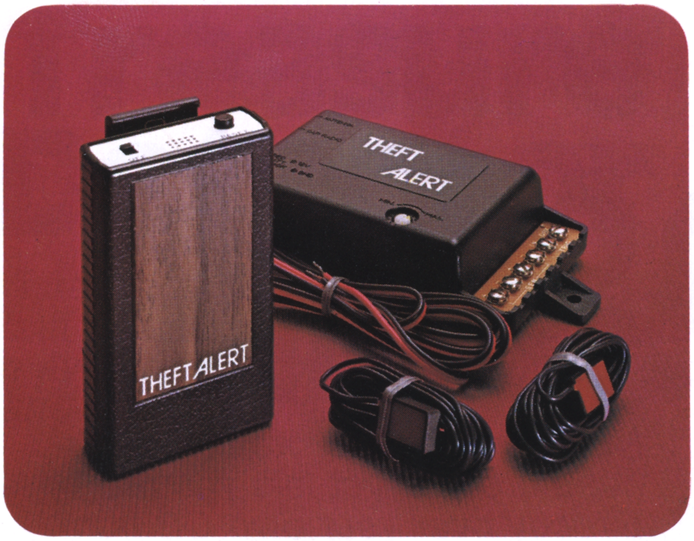
Because it's random, the unit will turn on and off at varying times on different days but always during the approximate times programmed for that day.

To install the unit, you simply turn off the fuse for that outlet, remove your present light switch, and replace it with the new one. There's no soldering required—just screw on a few wire nuts and you're finished.

The switch can be overridden by just pressing a button to turn on the light. One of the nice features of the system is its appearance—that of a space-age switching system which is sure to be a conversation piece in any room.

The only drawback to the system is that in the event of a power failure, the lights go on and stay on after the power outage. But this could also be considered an advantage as it would warn your neighbors to stop by and check out your home.

The Hutec security switch costs only **$39.95** (2.50 Order Nr. **3090**) for regular switches or **$49.95** (2.50 Order Nr. **3091**) for 3-way switches, and it is well worth a test. If the test works, order them for your entire home. Even if they just replace your existing switches, you'll have the only home on the block with a digital watch in each one of your light switches. Order one at no obligation, today.



Protect your car silently with a new breakthrough in auto protection.

Auto Surveillance Paging System

Car alarms have always caused problems. A false alarm might catch you inside a building where you are unable to hear your alarm while it wakes up the entire neighborhood. In a real robbery, an alarm only makes the burglar work faster.

The new Page Alert system is the first really smart and inexpensive way to protect your car.

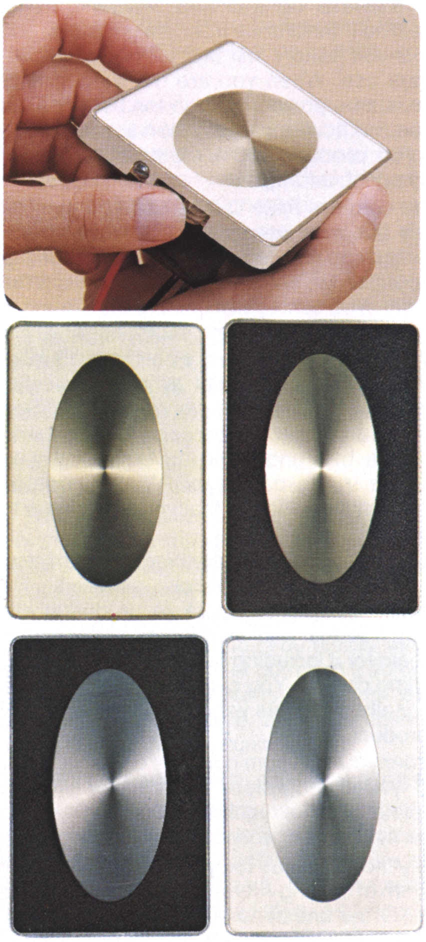
You carry a small 4-ounce paging unit with you similar to the familiar pocket pagers. If somebody breaks into your car, your pager beeps to alert you. You can then call the police or investigate the situation. Often the burglar can be caught as he unsuspectingly rummages through your car, or the car thief can be stopped as he tries to cross your ignition wires.

The signal you receive is generated by a powerful 500 milliwatt transmitter that has a range of one-half mile. You can be in a house blocks away and still pick up the signal. The transmitter is just plugged into your cigarette lighter and a door sensor is stuck on the hinged portion of your door with pressure sensitive tape. You can install the complete system in less than a minute.

Each signal is individually coded with a dual tone sequential coding system. Since there are over 12,000 possible combinations, the chances of someone else triggering your pager is highly unlikely.

When you leave your car, you have full confidence that your car is well protected. If you elect to attach a siren or horn, there is a connection that can be used for that purpose.

Owning a CB radio is no fun when you constantly have to remove it from your car. Now you can leave your radio or other possessions in your car knowing they will be protected without all the disadvantages of a typical alarm system. Order your Page Alert system from JS&A at no obligation today. Only **$99.95** (3.00 Order Nr. **3070**).



Touch-Tap Light Switch

Just touch the light switch and your lights go off, keep touching the light switch and your lights dim. Here's a report on a major new lighting innovation.

Picture this. You tap your light switch and it turns on. You tap it again, and it turns off. But there's more.

Continue touching the new Levitan Sensitron light switch and the lights automatically dim and continue to dim until they darken, at which point they start to glow again.

The new light switch is a major new breakthrough in home lighting controls. Using the latest micro-electronic control technology, Levitan has created a light switch with no moving parts and made it easy enough so that anyone can install it.

Each switch is supplied with wire nuts and complete wiring instructions to make the installation easy and quick in any standard single-gang wall box.

There are distinct benefits to touch-tap light control. 1) The unit glows in the dark slightly so at night you can see the light switch. 2) You can control every light in your home by dimmers which save electricity and add a charming glow to any room. And finally, 3) You save. Dimmers are expensive. The Levitan light switch is only $19.95 each.

There are four decorator colors. Put one in your entrance way or in your bedroom. If it doesn't provide more convenience than you expected, feel free to return it for a prompt and courteous refund.

The Levitan wall switches come in the following colors: Ivory with gold touch plate (**9220**), brown with gold touch plate (**9221**), black with silver touch plate (**9222**), and white with silver touch plate (**9223**). Add $2.50 per order for postage and handling. Just list the order number shown next to each wall switch, and we will promptly fill your order. If you like them order more. They're one of the year's major new breakthroughs in lighting controls.

Cordless CB Mike

New microphone breakthrough has no cable yet lets you talk directly over your own CB from anywhere in your car or camper.

It's really a funny feeling. A new electronic breakthrough now makes it possible to talk over your CB on a microphone with no connecting wires.

This new microphone will work anywhere in your car–in the back seat or even the back end of your camper and operate your CB as if by remote control.

SOUND AND POWER

The sound quality of the cordless mike is as good or better than your present microphone. And with the freedom of a cordless mike, you have no wires to tangle and no cables to stretch.

A miniature transmitter is located in the microphone. When you push the button to talk, the microphone transmits a 100 milliwatt signal which is picked up on a small mini-receiver plugged into the mike jack of your CB radio.

The mini-receiver picks up this signal and does two things. First, it switches your CB set to the transmit mode, and secondly, it transmits your voice on a linear signal that sounds clear and undistorted.

Not only is the cordless mike the first really new CB innovation in the last two years, it's priced right too–only $69.95 complete with the cordless CB microphone, mini-receiver and cables. But there's more.

FCC APPROVED

The microphone was designed so well that the signal you transmit remains in your vehicle. It won't radiate beyond the metal shield of your car. In fact, the FCC has approved the system–the first remote control CB transmitting microphone they've permitted on the air.

But even more important to JS&A are the people who manufacture this product–Nevcom. They worked three years to perfect the concept despite many setbacks. Other larger manufacturers tried and failed but Nevcom persisted. Not only did they end up producing one of the finest CB products that we've ever seen, but they are awfully nice people and we're really proud to be associated with them.

The mini-receiver simply plugs into any CB microphone connector right on your CB set.

The unique styling of the cordless CB mike was designed to complement any CB rig.

The cordless mike is built of high impact plastic and all components are cushioned to take abuse. If service is ever required, simply slip your mike into its handy mailer and Nevcom's service-by-mail facility will have it fixed and back to you promptly. Service should not be a problem, but to show how much they stand behind their product, Nevcom has asked us to mention their service center in our advertisement.

There's very little installation required to install your cordless CB system. There are no holes to drill and no tuning required. The receiver plugs into your CB unit and can be hidden anywhere.

The two wires that power the mini-receiver can be attached to the same 12-volt power source you use with your CB set or plugged into your cigarette lighter. And a 9-volt battery is inserted in the CB mike to power its 100 milliwatt transmitter. A special adapter is provided so that even if you have an odd-shaped microphone connector, the receiver will simply plug right in.

NO INTERFERENCE

The cordless mike was designed with micro solid-state components and weighs only 5 ounces–actually less than many conventional CB microphones. Because it transmits with 100 milliwatts on the clear 49 MHz band, there's no interference from other CB'ers, and your 9-volt battery will last for hours of continuous use. When you are not transmitting, there is zero power drain on the battery–just like on the power mikes. When you do transmit, you produce 100% modulation, so you really punch through.

The cordless mike can be used not only by CBers but by boaters, amateur radio operators, taxi drivers, or anybody who uses a microphone for work or fun. And think of the security. You can actually hide your CB unit in your car when you use our microphone.

We suggest you order the cordless CB mike during our 30-day free trial. When you receive it, see how quickly it slips onto your CB. See how loud and clear you broadcast. Take it with you on a trip, and while driving, hand it to someone in the back seat. We'll guarantee you will find it so handy that you won't want to return it.

But let's say it isn't everything you expected and you're not absolutely satisfied. No problem. Just send it back to us during our 30-day free trial and we'll refund every penny you paid for it including our $3.00 postage and handling charge. You can't lose, and you'll be personally using this year's most exciting new CB product.

Order your Nevcom cordless CB mike. We'll send you the cordless microphone system complete with receiver, 90-day limited warranty, battery, and complete instructions.

Why not find out for yourself the fun and freedom of owning America's first cordless CB mike? Order one at no obligation, today. Only **$69.95** (3.00 Order Nr. **6565**)

Treasure Detector

A new computerized metal detector that actually selects treasure from trash may uncover America's long lost relics and precious metals.

There's a lot of treasure right under our feet. There's also a lot of garbage.

And the problem with most metal detectors is that they're dumb. They can't tell treasure from trash.

The new Techna metal detector is different. It has both a sensing system and a brain that can tell the difference between a foil gum wrapper and a coin – between a bottle cap and a diamond ring.

The new breakthrough was made possible by the use of a "discriminator IC" – a computer-type integrated circuit that can compare the ferrous and non-ferrous relationships that distinguish treasure from trash.

There are discriminator-type metal detectors now on the market, but they cost between $170 and $400. And no matter what price you pay, the detector is usually difficult to operate.

The new Techna Discriminator represents several breakthroughs. First, it is inexpensive – only $69.95. Secondly, it uses a new (patent pending) phase compensation system of metal detection, whereas other discriminators use either the off-resonance or inverse discrimination principle.

This system utilizes a microprocessor circuit which replaces the conventional electronics, mode switch, and multiple tuners that added to the cost and weight of a discriminator unit.

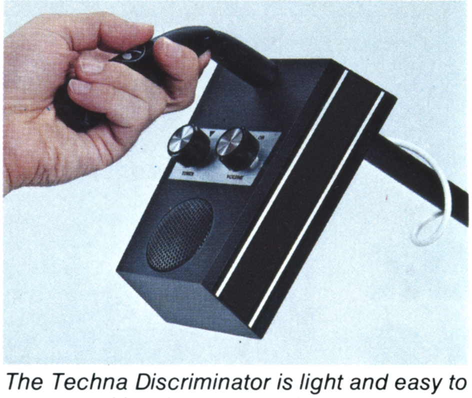
Finally, the Discriminator is very easy to operate and understand. You simply set it to sense treasure, trash, or both and it automatically tunes itself and starts operating. Whenever you scan treasure, a loud speaker will emit a sound and you start digging.

DETECTORS ARE BIG BUSINESS

Metal detectors are big business. When we investigated the field, we discovered an entire new sport – treasure hunting. Treasure clubs exist and conduct contests. There's a national magazine and an association, and hundreds of thousands of units are in use every day.

Treasure hunting doesn't just mean looking for buried pirate chests. There's great interest now in discovering articles of historical significance such as old coins, military buttons, and old pistols.

Long ago when people distrusted banks, they buried their valuables somewhere on their property. If they died suddenly or became senile, their treasures were lost forever. Many treasure hunters are now visiting ghost towns or going through older sections of cities looking for both historic and valuable articles.



The Techna Discriminator is light and easy to operate with only two controls to adjust.

WORLD WAR II STARTED IT

Metal detectors first saw extensive use during World War II. Back then, they were called mine detectors and were used to uncover enemy land mines. They were heavy, often weighing hundreds of pounds, and had to be carried on the backs of soldiers along with separate and heavy power supplies.

The new Techna Discriminator is light. It weighs only 2½ pounds and is powered by two readily-available 9-volt batteries. As you glide the sensing head over the ground, the unit remains silent until it uncovers a precious metal or whatever type metal you are searching for. An electronic sound is emitted. Then just dig in the area of the sound.

If you already own an expensive metal detector, you know that most of your "discoveries" turn out to be bottle caps or gum wrappers. With the Techna, you discover just what's worth digging up. While others are digging up bottle caps, you're covering more ground faster and are more likely to discover something worthwhile.

The fully computerized Techna Discriminator is available from JS&A for only $69.95 complete with batteries and all components. We suggest you order one just to try it out. Try it in your back yard. Take it to a sandy beach where many coins and jewelry are lost. See how the system can tell the difference between treasure and trash, and then after you have discovered the fun of treasure hunting and how advanced this new product really is, decide whether or not you wish to keep it.

If you feel the Techna Discriminator does not meet all your expectations for any reason, we will gladly accept the return of your unit within our 30 day trial period and even refund your $3.50 postage and handling. If you decide to keep your unit, you will own the world's most advanced metal detector. No competitive model even comes close.

Techna is America's largest manufacturer of metal detectors in the United States, and each Techna detector is backed by a solid one-year parts and labor limited warranty. We doubt if you'll ever have a problem with the unit because of its solid-state construction, but if service is ever indeed required, Techna's service-by-mail center will fix your unit and have it back to you quickly. Your unit is shipped complete with batteries, 90-day limited warranty, and instructions.

Why not join the legion of treasure hunters worldwide with the world's most advanced space-age metal detector? Order the Techna Discriminator metal detector at no obligation, today. Only **$69.95** (3.50 Order Nr. **2020**)

DYNACHARGE
rechargeable

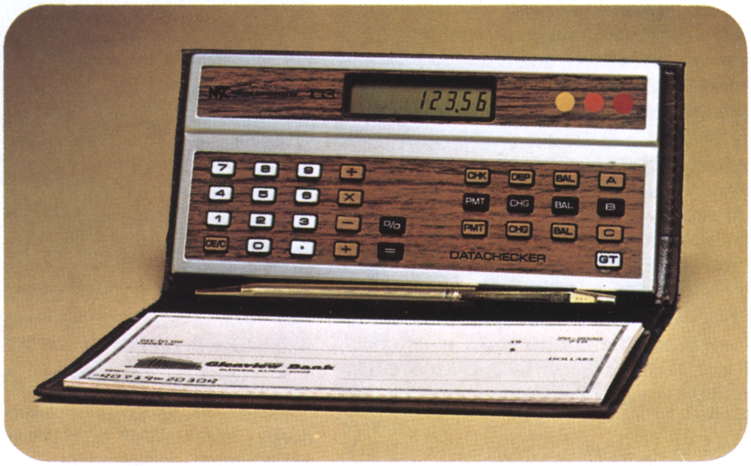
New Battery Technology

DYNACHARGER
for charging nicad energy cells
CHARGING

Even battery technology is changing. The new Dynacharge power cells provide a constant voltage and never leak (even if left in seldom-used products). They have a 5-year or 1000-charge warranty and there is a 150-times savings over throwaway cells even though Dynacharge batteries are triple the initial cost. The Dynacharge cells have over 23% more capacity than other nickel cadmium batteries, cannot be overcharged and, charge to full capacity very quickly. We have selected the Dynacharge as the best of the rechargeables. Look on the order form enclosed with this catalog for prices and then order a few today.

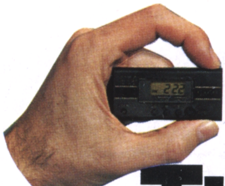
The Dynacharge recharging system shown to the lower left and above will charge four cells at one time (9-volt batteries can be charged only one at a time). Just plug the charger into any 110 volt outlet and a red light glows when your batteries are inserted correctly and are being properly charged. You can't make a mistake and you can't overcharge. Only **12.95** (2.00 Order Nr. **9090**). Order one with your batteries.

Checkbook with a Brain



National Semi Conductor manufactures a pretty nice little gift idea. The triple memory checkbook calculator will retain, in memory, the balance in your checking account and two charge card accounts even after you turn your unit off. The batteries, which are supplied with the unit, will last over two years.

Whenever you withdraw from your checking account or charge an item to your credit card, you recall the balance you have in that memory onto the liquid crystal display. You then subtract the check or add the credit card charge, and your new balance is stored until you're ready for the next transaction. You can use the unit as you do any calculator since it is also a full five-function calculator. This way, you have extra flexibility. The unit is 7.5mm thin and is the size of a personal check. It comes with a checkbook holder, pen, one-year limited warranty, and carrying case for only **$29.95** (2.50 Order Nr. **0720**).



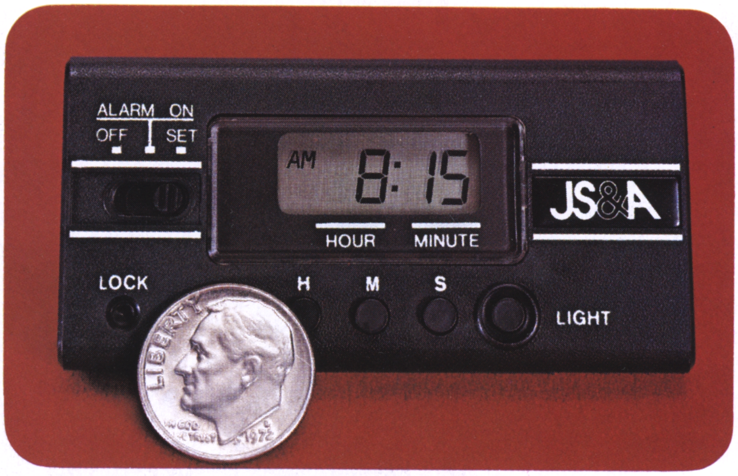
Mini Travel Alarm

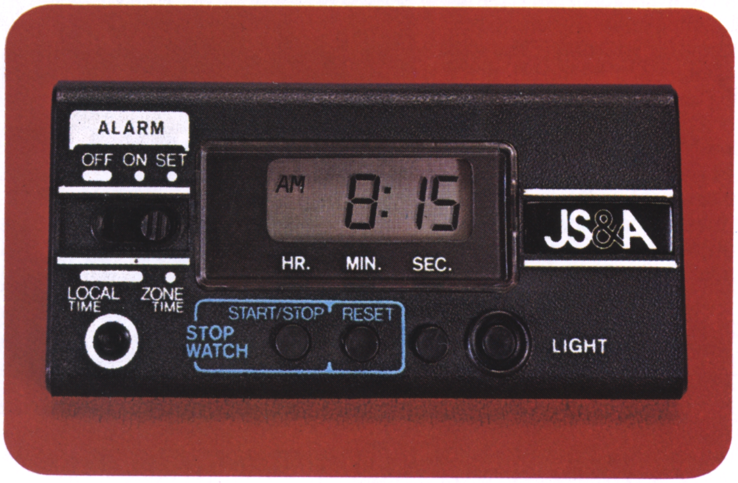
It's small. And because it's small, it fits anywhere. In your briefcase or in your pocket.

The new JS&A Mini Travel Alarm measures only 3/8" x 1¼" x 2½" and has a small easel support on the back. Just set the alarm, and the electronic beep will wake you up. The clock movement is totally solid-state, and a built-in night light lets you view the time in the dark.

But the JS&A Mini Travel Alarm does more. First, it makes a great pocket watch. The small imitation black leatherette carrying case that comes with the unit has a window so you can view the time even when the unit is in its case. Secondly, it tells accurate time—within fifteen seconds accuracy per month. And finally, it's inexpensive—only **$29.95** (2.50 Order Nr. **0400**) complete with carrying case and two readily-available hearing aid batteries. It's perfect for everyone on your gift list.

There is also a deluxe version **39.95** (2.50 Order Nr. **0401**) with a built-in timer and dual time zone function. You can display one time while keeping the second time in memory. The deluxe version is the same size as the standard model and comes complete with a one-year limited warranty.





Mini Clock Radio

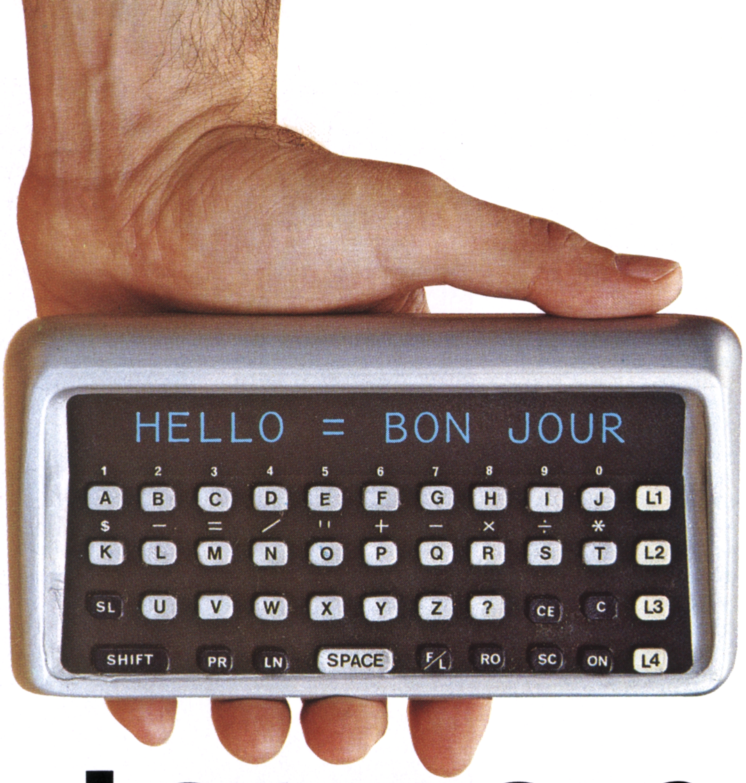
It's a quiet revolution. The tiny integrated circuit started it all. Now there are other electronic components so small that new microelectronic products are now possible.

The newest of these products is the Sanyo Pocket Clock Radio. It has an AM/FM radio and alarm—just like conventional clock radios. But inside there's a different story. The Sanyo uses micro-capacitors, micro-resistors, microtuners, and an extremely small and efficient speaker whose quality will amaze you.

The Sanyo measures only 1"x 3"x 5" and has a large time display and a built-in easel to prop up the unit for desk-top use. The Sanyo also has an LED channel indicator light—a visual device that tells you if you are tuned to the correct radio frequency. The Sanyo digital clock uses a new lithium battery rated to last three years, and the radio is powered by two readily-available penlight batteries. All batteries are supplied with the unit which also comes with a one year limited warranty.

If you want a clock radio that takes up very little space on your night table or on your desk and one that would be used in place of a conventional clock radio, we strongly recommend the Sanyo. The unit is a top-quality product with a chirping alarm, a night light to illuminate the time display, and handsome styling.

If you've ever thought of using a clock radio by your bed or on your desk but you didn't want the clutter, the Sanyo makes the perfect unit. Or think of the Sanyo as a surprise gift this gift-giving season. You'll be giving a truly space-age product to be used and appreciated every day. **$69.95** (2.50 Order Nr. **6050**).



Language Translator

Communicate in any language without saying a word, or learn a new language with the world's first computerized language translator.

Model shown here is prototype and is subject to slight modifications.

Learning languages is not easy. It takes books, classes, cassettes, and hard work.

Now, however, you have a choice. You can communicate in a foreign country without speaking the language, or you can learn the language more easily thanks to a new electronic miracle.

Craig Corporation has just introduced the Translator—a pocket-sized personal computer that stores up to 7,000 words and translates them from one language to another at the touch of a button.

You enter a word in English on the alphabetical keyboard, press the translate button, and the word is shown on the display in the foreign language. You have a choice of Japanese, French, German, Italian, and Spanish, depending on the language you select. And you can translate from any one language into another.

You program the unit with four small memory capsules which contain approximately 1500 words each. By swapping capsules, you can change languages, so the unit will hold a total of 7,000 words in the four languages combined.

WORLD COMMUNICATION

The Craig Translator is truly a pocket-sized translation computer that will help you communicate in practically every major nation in the world—even if you don't want to learn the language. There are a series of numbers listed on the back of the computer which correspond to 50 of the most commonly used and most practical phrases. 25 of the phrases are complete statements such as: "How much does this cost?" The remaining 25 statements require one or two additonal words like: "May I please have the..." You simply press the number for the phrase you want and then enter the missing word on the keyboard which has keys with both letters and numbers.

When you press the translate button, your phrase is flashed on the display in the foreign language. If the phrase is longer than the width of the screen, it rolls to the left—just like on a movie marquee. The display will hold up to 16 characters.

Armed with the 50 phrases and a 7,000 word vocabulary, you can take your small information retrieval system throughout the world and literally carry on complete conversations without saying a word. Just enter the translated phrase or word and show it to the person with whom you are communicating. Have that person enter the answer, and before long you'll be carrying on complete conversations. You can negotiate prices at an outdoor market, order from menus, clarify statements, read newspapers, and understand street signs.

Phrase books are handy for travelers because all the most common words and phrases are indexed for quick reference. The Craig Translator is also indexed. Just enter the subject, press a button, and you can recall a subject and its related words in alphabetical order. You can index travel, shopping, business, or medical terms and scan them faster than turning the pages of a book.

FOR THOSE WHO WANT TO LEARN A LANGUAGE

Learning a language is not easy, and the Craig Translator is not a substitute for practice and hard work. The Translator is, however, a very valuable teaching aid—one that can accelerate the learning process and teach you more vocabulary faster.

The Craig Translator uses four systems of reinforcement. Reinforcement is a teaching concept in which the teacher praises you when you're right and gives you the correct answer when you're wrong.

FOUR TEACHING SYSTEMS

The Craig's four reinforcement systems are:

Frequency You can sort out words by how frequently they come up in normal conversation and then learn these words. Each one will be flashed on the display for a few seconds, and you say aloud the correct translation.

Spelling A word is flashed in English and you guess the spelling of the foreign word which you then enter on the keyboard. If you enter it wrong, the unit tells you and then flashes the correct answer on the display.

Category You can learn by category. Select a

BERLITZ FRENCH FOR TRAVELLERS Français/Anglais 96392
BERLITZ JAPANESE FOR TRAVELLERS 96407
BERLITZ GERMAN FOR TRAVELLERS Deutsch/Englisch 96383
BERLITZ SWEDISH FOR TRAVELLERS Svensk/Engelsk 96399
BERLITZ POLISH FOR TRAVELLERS Polsko/Angielski 96416
BERLITZ RUSSIAN FOR TRAVELLERS Русско-Английский
BERLITZ ITALIAN FOR TRAVELLERS Italiano/Inglese 96394
BERLITZ LATIN-AMERICAN SPANISH FOR TRAVELLERS Español/Inglés 96413

For the first time in history, Americans can carry with them the information contained in volumes of books and communicate with this information faster and more efficiently than was ever thought possible.

subject and access the associated words alphabetically. If you are preparing for a trip, you can learn all the words that relate to travel.

Alphabet You can learn by the alphabet. Start at any letter and the unit will display all the words that start with that letter.

ALL THE ANSWERS

There are other features that make the Craig Translator an outstanding teacher:

Spelling Program If you enter a misspelled word, the display will flash a question mark. By pressing a key, you instruct the unit to find the correct spelling. On the display will flash a series of words it thinks are the correct ones, and you simply select the right one.

Double Meanings When you enter an English word that has two meanings in the foreign language, the unit will ask you which meaning by listing the possible choices. Again you select the right one by pressing a key. For example, "watch" would be two different things depending on whether it was meant as a verb or a noun.

The most rewarding aspect of learning a language with the Craig system is "memory retention." When you need to know a word and can look it up at that very moment, your chances of remembering it are several times greater than in a classroom environment.

The Craig Translator not only gives you the answer, it does so immediately—at that moment—so it provides a very useful learning function. And it's fun to use and carry with you all day long.

MEMORY CAPSULE

The languages are contained in small memory capsules, four of which hold up to 64,000 bits of information or 7,000 words. The Craig Translator will accept other data so that eventually you will be able to store complete dictionaries, recipes, calorie equivalents, useful statistics, and other learning programs and then display this data on your pocket-sized information retrieval system. Language capsules cost only $24.95 each—about the cost of a few language textbooks, so the unit can inexpensively grow to fit many different applications.

You don't even have to read the instructions to operate the unit. A starter Memory Capsule that comes with the unit will tell you how in six different languages. The capsule also contains the programs necessary to use your unit as a calculator or for currency conversions. It contains the metric conversion tables and 20 words or phrases in six languages—words such as hello, goodbye, thank you, etc.

ADVANCED TECHNOLOGY

There was no existing display that could be used in the Translator, so the display had to be developed exclusively for Craig. The letters appear in bright fluorescent blue and are very easy to read.

The unit, its memory, its Memory Capsule system—all represent major breakthroughs in technology. But with all its sophisticated electronics, it was built simple enough to be easy and fun to use.

MANY PERSONAL USES

If you are a language student or a frequent traveler, the Craig Translator would be the perfect companion. That might appear obvious. But what about the shop owner who has to communicate with people from other countries? Or the grandparents looking for the perfect gift for a young high school student learning a new language?

And don't overlook the young grammar school child. With the Craig Translator and a little tutoring, you'll be amazed at how quickly he or she picks up a language.

You'll really appreciate the Translator the first time you use it. It's like a friend—always ready to give you an answer when you need one. It's your interpreter in a foreign country, your resident genius with its huge data bank, and your personal advisor with its indexing system.

TRY ONE FIRST

We would like to offer a suggestion. Order the Translator on a special 30-day trial. Use it to begin learning a language, or see how easy it is to communicate with somebody who doesn't speak your language. Take it on a business trip to Europe or Japan. Take it shopping with you. Use it at a restaurant, or negotiate a business deal with it. See how much fun it is to learn a language and how much faster your vocabulary increases.

After you've really discovered how valuable a friend your Craig Translator can be, then decide if you want to keep it. If not, return it anytime during our 30-day trial period for a prompt and courteous refund including your $2.50 postage and handling. There is no risk.

JS&A offers you the opportunity to own, use, and experience the world's first pocket-sized language translator. But don't wait. The demand for the Craig Translator may be great, and since the announcement in this catalog is the first ever made on this product, we urge you to place your order promptly. Deliveries will not start until January and then only on a limited basis.

The Craig Translator is manufactured by Craig Corporation—a substantial public company. Both JS&A and Craig Corporation have been doing business together since 1971 when JS&A introduced the world's first pocket calculator—the Craig 4501. Back in 1971, we said that the technology represented in the first pocket calcultor was "...the most important electronic breakthrough since the transistor." The Craig Translator represents another quantum leap in technology, and we are proud to be associated with Craig Corporation in its introduction.

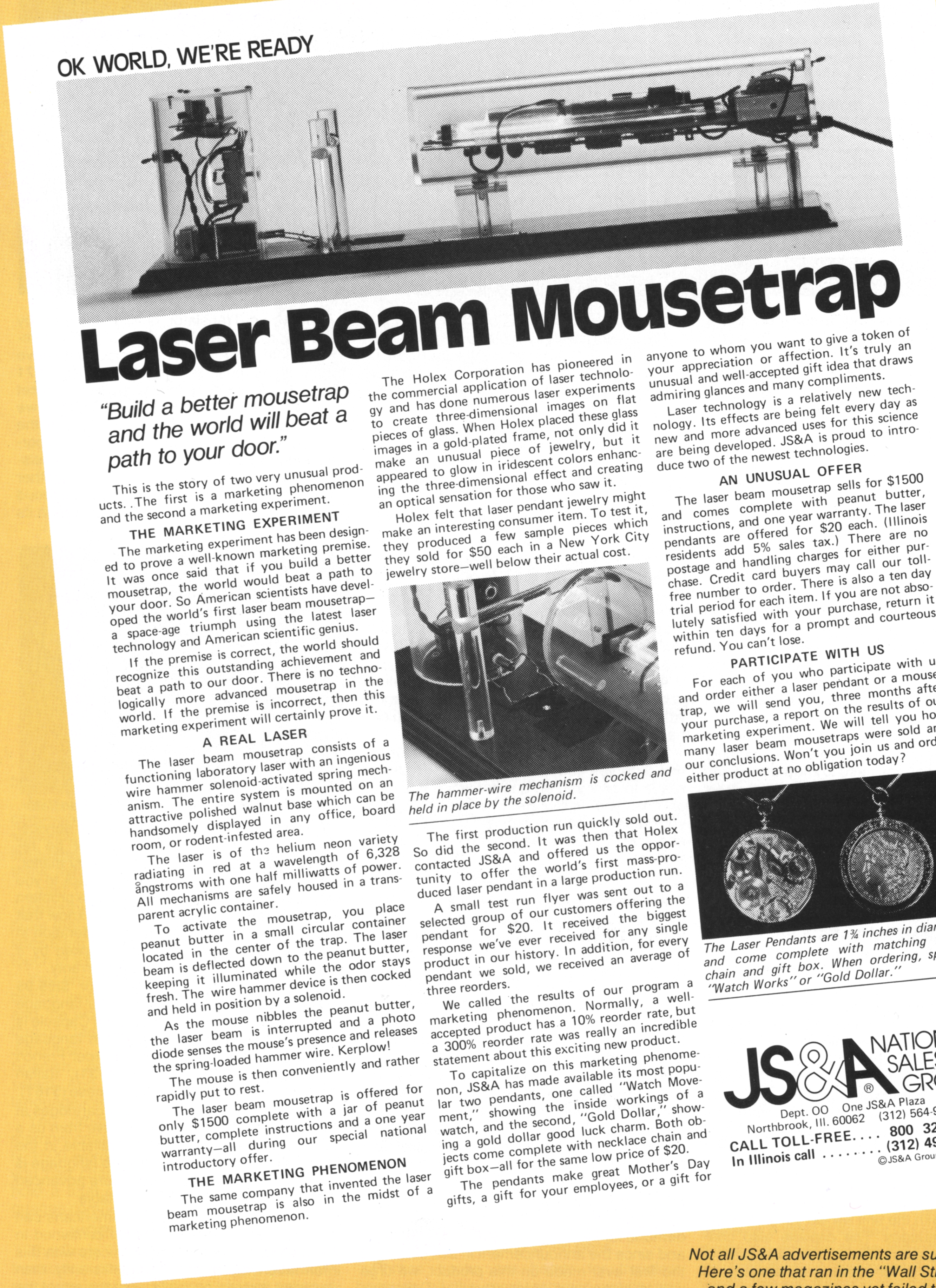
The handsome styling of the Craig Translator.

Craig Corporation has a complete service-by-mail facility should service ever be required. Just slip your unit in its handy mailer, and it will be repaired and shipped back to you promptly. You shouldn't have a single problem with your unit, but it's reassuring to know that even service is an important consideration in this program. Your unit is also backed by a one-year parts and labor limited warranty.

Order your Craig Translator for **$199.95** (2.50 Order Nr. **5100**). Specify the language capsules you require. (The English Capsule is provided free with the unit.) Each language capsule costs **$24.95**. You can order French (Order Nr. **5121**), German (**5131**), Italian (**5141**), Spanish (**5151**). and Japanese (**5161**).

Remember, the unit holds four cartridges at the same time, and you will receive from us a list of cartridges that will be available in the future. Only one cartridge in each language is available now, although later, more advanced vocabulary capsules will be available.

For the first time in history, Americans can carry with them the information contained in volumes of books and communicate with this information faster and more efficiently than was ever thought possible. Join the era of the real personal computer. Order a Craig Translator at no obligation, today.



OK WORLD, WE'RE READY

Laser Beam Mousetrap

"Build a better mousetrap and the world will beat a path to your door."

This is the story of two very unusual products. . The first is a marketing phenomenon and the second a marketing experiment.

THE MARKETING EXPERIMENT

The marketing experiment has been designed to prove a well-known marketing premise. It was once said that if you build a better mousetrap, the world would beat a path to your door. So American scientists have developed the world's first laser beam mousetrap—a space-age triumph using the latest laser technology and American scientific genius.

If the premise is correct, the world should recognize this outstanding achievement and beat a path to our door. There is no technologically more advanced mousetrap in the world. If the premise is incorrect, then this marketing experiment will certainly prove it.

A REAL LASER

The laser beam mousetrap consists of a functioning laboratory laser with an ingenious wire hammer solenoid-activated spring mechanism. The entire system is mounted on an attractive polished walnut base which can be handsomely displayed in any office, board room, or rodent-infested area.

The laser is of the helium neon variety radiating in red at a wavelength of 6,328 ångstroms with one half milliwatts of power. All mechanisms are safely housed in a transparent acrylic container.

To activate the mousetrap, you place peanut butter in a small circular container located in the center of the trap. The laser beam is deflected down to the peanut butter, keeping it illuminated while the odor stays fresh. The wire hammer device is then cocked and held in position by a solenoid.

As the mouse nibbles the peanut butter, the laser beam is interrupted and a photo diode senses the mouse's presence and releases the spring-loaded hammer wire. Kerplow!

The mouse is then conveniently and rather rapidly put to rest.

The laser beam mousetrap is offered for only $1500 complete with a jar of peanut butter, complete instructions and a one year warranty—all during our special national introductory offer.

THE MARKETING PHENOMENON

The same company that invented the laser beam mousetrap is also in the midst of a marketing phenomenon.

The Holex Corporation has pioneered in the commercial application of laser technology and has done numerous laser experiments to create three-dimensional images on flat pieces of glass. When Holex placed these glass images in a gold-plated frame, not only did it make an unusual piece of jewelry, but it appeared to glow in iridescent colors enhancing the three-dimensional effect and creating an optical sensation for those who saw it.

Holex felt that laser pendant jewelry might make an interesting consumer item. To test it, they produced a few sample pieces which they sold for $50 each in a New York City jewelry store—well below their actual cost.

The hammer-wire mechanism is cocked and held in place by the solenoid.

The first production run quickly sold out. So did the second. It was then that Holex contacted JS&A and offered us the opportunity to offer the world's first mass-produced laser pendant in a large production run.

A small test run flyer was sent out to a selected group of our customers offering the pendant for $20. It received the biggest response we've ever received for any single product in our history. In addition, for every pendant we sold, we received an average of three reorders.

We called the results of our program a marketing phenomenon. Normally, a well-accepted product has a 10% reorder rate, but a 300% reorder rate was really an incredible statement about this exciting new product.

To capitalize on this marketing phenomenon, JS&A has made available its most popular two pendants, one called "Watch Movement," showing the inside workings of a watch, and the second, "Gold Dollar," showing a gold dollar good luck charm. Both objects come complete with necklace chain and gift box—all for the same low price of $20.

The pendants make great Mother's Day gifts, a gift for your employees, or a gift for anyone to whom you want to give a token of your appreciation or affection. It's truly an unusual and well-accepted gift idea that draws admiring glances and many compliments.

Laser technology is a relatively new technology. Its effects are being felt every day as new and more advanced uses for this science are being developed. JS&A is proud to introduce two of the newest technologies.

AN UNUSUAL OFFER

The laser beam mousetrap sells for $1500 and comes complete with peanut butter, instructions, and one year warranty. The laser pendants are offered for $20 each. (Illinois residents add 5% sales tax.) There are no postage and handling charges for either purchase. Credit card buyers may call our toll-free number to order. There is also a ten day trial period for each item. If you are not absolutely satisfied with your purchase, return it within ten days for a prompt and courteous refund. You can't lose.

PARTICIPATE WITH US

For each of you who participate with us and order either a laser pendant or a mousetrap, we will send you, three months after your purchase, a report on the results of our marketing experiment. We will tell you how many laser beam mousetraps were sold and our conclusions. Won't you join us and order either product at no obligation today?

The Laser Pendants are 1¾ inches in diameter and come complete with matching metal chain and gift box. When ordering, specify "Watch Works" or "Gold Dollar."

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CALL TOLL-FREE. . . . 800 323-6400
In Illinois call . . . . (312) 498-6900
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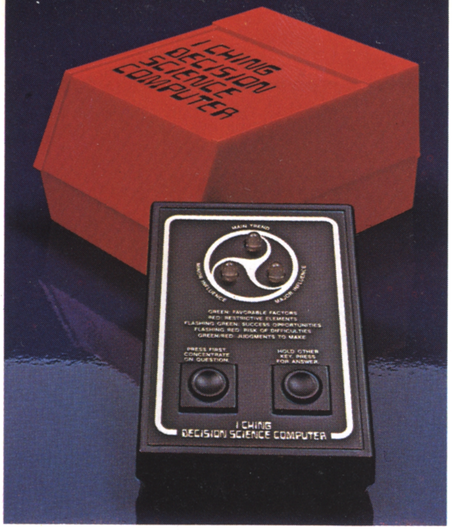
Not all JS&A advertisements are successful. Here's one that ran in the "Wall Street Journal" and a few magazines yet failed to sell one single mousetrap. We've since removed the item from our line.


I CHING
DECISION
SCIENCE
COMPUTER
MAIN TREND
MINOR INFLUENCE
MAJOR INFLUENCE
GREEN: FAVORABLE FACTORS
RED: RESTRICTIVE ELEMENTS
FLASHING GREEN: SUCCESS OPPORTUNITIES
FLASHING RED: RISK OF DIFFICULTIES
GREEN/RED: JUDGMENTS TO MAKE
PRESS FIRST. CONCENTRATE ON QUESTION.
HOLD OTHER KEY, PRESS FOR ANSWER.
I CHING
DECISION SCIENCE COMPUTER

Crystal Ball Technology

A game, a gimmick, or a major breakthrough in predicting the future? You be the judge.

As incredible as this may sound, there may be a way to predict the future. But because of the very sensitive implications, we will leave all conclusions to the reader.

American scientists have developed a computer that, together with the science of cycles, an ancient Chinese theory, and the electrical impulses and sensing mechanisms of the human brain, permits you to read your subconscious mind.

The small computer has only two buttons and three lights. But before we describe its uses, you must first understand three basic concepts.

Concept 1: The Science of Cycles

Any student of economics, natural science or the stock market knows that events happen in cycles. Sunspots, weather conditions, the economy, birth rates, wholesale prices, crime and wars–all follow a pattern or cycle.

Concept 2: The Human Brain

The human brain processes data through electrical impulses. This concept was defined by Dr. Norbert Wiener in his 1948 book entitled *Cybernetics*. He stated that the brain handles the electrical impulses using the binary code–the same code used by computers. This theory has since been endorsed by many scientists.

Concept 3: The Chinese Theory

Over 3,000 years ago, the Chinese developed a system of predicting the future through a series of mathematical formulas based on the theory of probability and a series of biological relationships between objects. Called "I Ching," it was more a system of predicting the probability of success than actually predicting the future. In order to understand this system, you must understand three aspects of the I Ching concept: **1)** It uses binary code discovered by the Chinese over 3,000 years ago. **2)** It is based on the scientific theories of probability, and **3)** It is based on relationships commonly found in dreams.

THE DREAM RELATIONSHIPS

When you drop a stone in a pond of water, you create a ripple effect in the water at a specific frequency. If you drop an apple, an orange or an old shoe and by coincidence create the same frequency, you have a relationship between all of these objects even though none of them seems related. The Chinese theory states that there are just such biological relationships in life. Recent psychological studies of dreams have confirmed this.

For example, the theory of I Ching says that a relationship exists between a lake, autumn, wood, the youngest daughter, the mouth and the wind. The Chinese theory further states that all these things have a common frequency or vibration similar to the hypothetical example of the pebble, apple, orange and the old shoe.

In tests performed by leading psychiatrists under controlled conditions, these related objects appeared with startling frequency in the dreams of subjects.

Carl Jung, one of the fathers of modern psychiatry, studied I Ching. Jung's theory and the theory of I Ching state that the various relationships proven to exist in dreams are subconsciously programmed in our brain. And like the pebble and water example, these relationships have their own rhythms and cycles.

YOUR BRAIN DETECTS CYCLES

Our brain cells, according to the theory, detect and register their cycles. The brain then compares our own cycles with those of hundreds of outside cycles at a given time. In the comparison process, our body and mind are subconsciously directed towards conditions helpful to our development and avoid those which are not. The best example of this theory is the survival reaction of animals who can detect an earthquake days before the actual event, something man cannot do with the most sophisticated measuring instruments.

The degree to which we are compatible with another person or situation is therefore how our specific set of biological relationships and cycles at a specific moment are in phase with another event, situation or person.

If we are in phase, the theory states, we will achieve success without much effort. If we are out of phase, the theory states that our chances of failure are greater. It does not determine our fate but rather tells us the probability of compatibility with that person or situation at a specific time. If we are told that our compatibility with a situation will be out of phase, we still have an opportunity to work against or adjust to that probability and still achieve success.

THE I CHING SYSTEM

The ancient I Ching system is described in terms of a game in the "Scientific American" cover story of January, 1974. The steps in the game were long and complicated but designed to transfer the subconscious expressions of compatibility to the real and visual symbols needed to interpret these expressions. Sixty-four sticks were used along with enough movement and decisions to let a person's subconscious express itself through physical motions and a binary application to the theory of probability.

So accurate were the results of this process that emperors used it to rule their countries, 250 books were written on its effectiveness, and many leading scientists believe in the theory's validity. Some scientists feel that the I Ching concept was taught to the Chinese from a distant civilization–that no group of scholars 3,000 years ago could have invented it.

There was one drawback to the I Ching System. After you determined the exact combination of sticks, you then had to look in a book of 64 formulas and interpret the relationships and their compatibilities to your specific situation. This required the great scholars of China who understood these relationships and the binary code. There are very few people who can do all this today.

Recently a group of American scientists took the 64 basic formula relationships expressed in binary code and devised a computer that selects the correct formula and translates the results.

WHAT COULD IT DO?

The great leaders of history were superior people who let intuition guide them and took decisive action, often in the face of unsurmountable odds. We all have the same opportunity of being a superior person by letting ourselves recognize our intuitive or "gut" feelings and then taking action.

Often, just taking action achieves success. All too frequently, people go through life saying "Had I only done something." Indecision is to failure as decision is to success.

The I Ching concept puts us in touch with another dimension of ourselves–that of the superior person inside all of us. It permits us to let intuition or "gut" feelings play a more important role in our decision-making process, and finally, it puts us in touch with ourselves by letting us tune into ourselves.

You make most of your decisions based on available data. With little data, you make decisions based on intuition, so in these situations, the I Ching computer can be like a wise friend.

EASY TO USE

To use the computer, you just press the left button with your thumb. This starts a sequential generator similar to a roulette wheel which scans the 64 basic I Ching formulas.

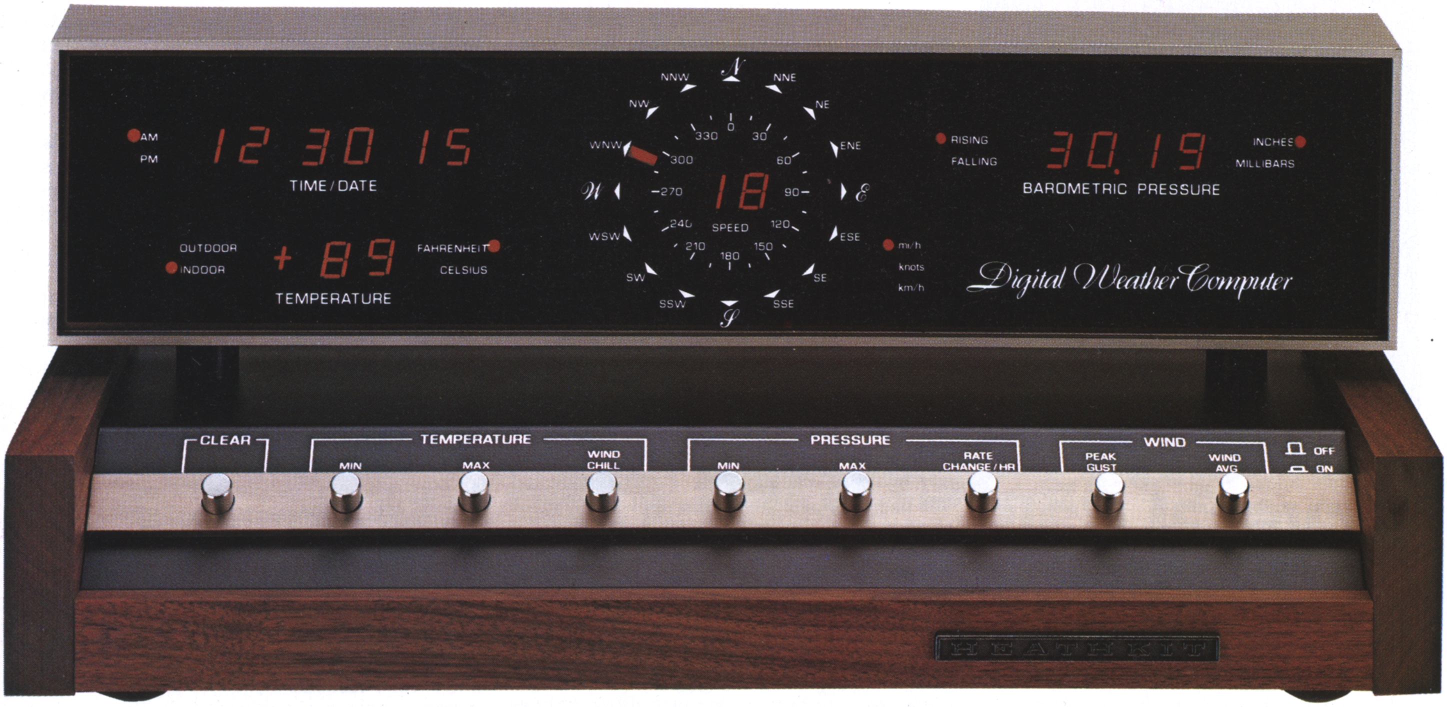
You concentrate deeply on a goal or question: "Should I invest in the stock market?" "Should I accept the date?" Then you press the button on the right at the exact moment your subconscious tells you to. Each one of the sixty four formulas rotates in exactly 3 milliseconds (three one thousandths of a second), the exact time required for a human to respond to a signal from the brain through the nervous system.

The computer is a small (1½" x 2½" x 3½"), yet very sophisticated system using a double ion implant P-Channel MOS integrated microprocessor-type circuit. It generates and stops at a specific formula and interprets this formula through the binary code and a series of three lights–each with three different color combinations which are then easy to interpret.

You can use it as a helpful decision maker, as a party conversation piece or as a unique gift. We do not wish to make claims as to its effectiveness, but the fact that our company is offering this product is the strongest statement we can make about the computer and the validity of the concept. The system's accuracy will either send chills up your spine or end up as just another conversation piece. Could it be hundreds of years ahead of its time, or is its timing perfect? You can decide.

Order an I Ching Computer. We will send you your unit with complete instructions for interpreting the results and a one-year limited warranty. If you are not pleased with your unit, return it within 30 days for a full refund.

Space-age scientists may have just discovered a way to read your subconscious and determine your probabilities of success through the use of a computer. Order your I Ching computer at no obligation today. Only **$29.95** (2.50 Order Nr. **4030**).



Storm Computer

Now you can do something about the weather with America's first solid-state storm computer.

Storms are exciting. The barometer drops, the wind picks up, and the temperature plummets.

But storms can also be dangerous. And that's why the new Heathkit Digital Weather Computer makes sense to anybody who cares about weather.

First, it represents a major breakthrough in weather predicting technology, and secondly, it does things that no single instrument at even a weather bureau can do.

The Storm Computer is a series of new solid-state instruments grouped together through a new computer system. It can accurately help you not only pinpoint an impending storm, but it can estimate its potential intensity before it strikes and its actual intensity when it does strike.

You can even go on vacation and upon your return know exactly what happened during a storm while you were away thanks to its five reporting memories.

HOW TO PREDICT A STORM

A storm can be predicted by knowing the various relationships between wind direction, velocity, temperature drop, and barometric change.

The Heathkit Weather Computer provides the data you need to help you predict the weather. Knowing the data and a few simple facts about their relationships can give you amazing insight into predicting a storm. The unit provides you with this information through a series of sensors, systems, and memories.

THE MEMORIES

The Storm Computer has several memories which provide the data you need to predict or to know the weather. They include:

STRONGEST WINDS The unit will store in its memory not only the strongest gust during a storm, but the exact hour, minute, second, and date that the gust occurred. You can be away on a trip and have this information waiting for you on your return. You will now know the exact time a cold front passed your area or even the gust that caused those trees to fall.

HIGH AND LOW TEMP The unit will also recall the high and low temperatures for the day. You can wake up in the morning, press the minimum temperature button, and see how cold it was during the night. The unit will store the information giving you the exact time and date the reading occurred, and it will hold this data until you clear the memory. Each memory can be cleared by pressing the clear button at the same time that you press the memory register you wish to clear, thus preventing the accidental clearing of a memory.

STACKING BAROMETER MEMORY

The computer uses a stacking memory to indicate the rate of change of the barometric pressure which usually indicates the intensity of an impending storm. It provides data previously impossible to obtain without time-consuming procedures or expensive equipment. The memory reads the barometric pressure every four minutes for an entire hour after you turn it on, stacking them in memory for a total of 15 readings. It then determines the rate. This figure can be important in determining the intensity of a storm and its speed. The system also remembers the lowest and highest barometric pressures and the time and date of occurrence.

SWITCH SELECTABLE

On the rear of the panel are switches which let you select the wind velocity in either miles, kilometers, or knots per hour and the barometric readings in either inches, mercury, or millibars.

WIND CHILL FACTOR

Besides indicating the indoor and outdoor temperature, the Heathkit Weather Computer also shows wind chill by computing the function of outside temperature and average wind velocity.

AVERAGE WIND VELOCITY

On a day with variable winds, the wind speed will show rapid changes. By engaging the average wind velocity memory, the unit averages out the wind over an increment of time to give a more stable reading. The secret of the storm computer is a series of new technologies that come together in what was previously impossible in a single instrument. The following is a list of the major technological breakthroughs:

NEW TRANSDUCER BAROMETER

Until now, there were only two standard barometer types – the mercury and the anneroid. Both have disadvantages. They are either inaccurate, difficult to read, or are too costly.

The Heathkit Storm Computer uses a new piezo resistive silicon bridge transducer to get its barometric readings. Although it certainly sounds like a mouthful, the barometer is simply a piece of silicon with four implanted resistors. As the pressure changes, the resistance to current flowing through the system changes, causing a change in voltage which is proportional to the change in pressure. The system is actually a solid-state pressure sensor. There's no column of mercury or vacuum chamber to read.

TRANSMISSIVE OPTICAL ENCODING

The wind speed and direction-indicating devices are also different from conventional systems. Most indicators consist of either 1) wipers that make contact with metal surfaces, 2) switches which are always subject to malfunction, and 3) servo systems which are the most dependable but very costly.

Each system has its advantages and disadvantages, but they are all mechanical and produce friction which causes inaccuracies of as much as 3 miles per hour on a wind speed indicator. There is also a delayed response time because of this friction.

The Heathkit system is accurate to less than a tenth of a mile per hour. It is based on an infrared sensing system that optically counts a coded disc as it spins. It has an extremely long life as there is no mechanical contact and consequently practically no frictional coefficient. With practically no friction, there's no maintenance, and there is little that could impair the system's accurate performance. The unit is lubricated for life and will respond far more accurately than ever before possible.

IN ACTUAL USE

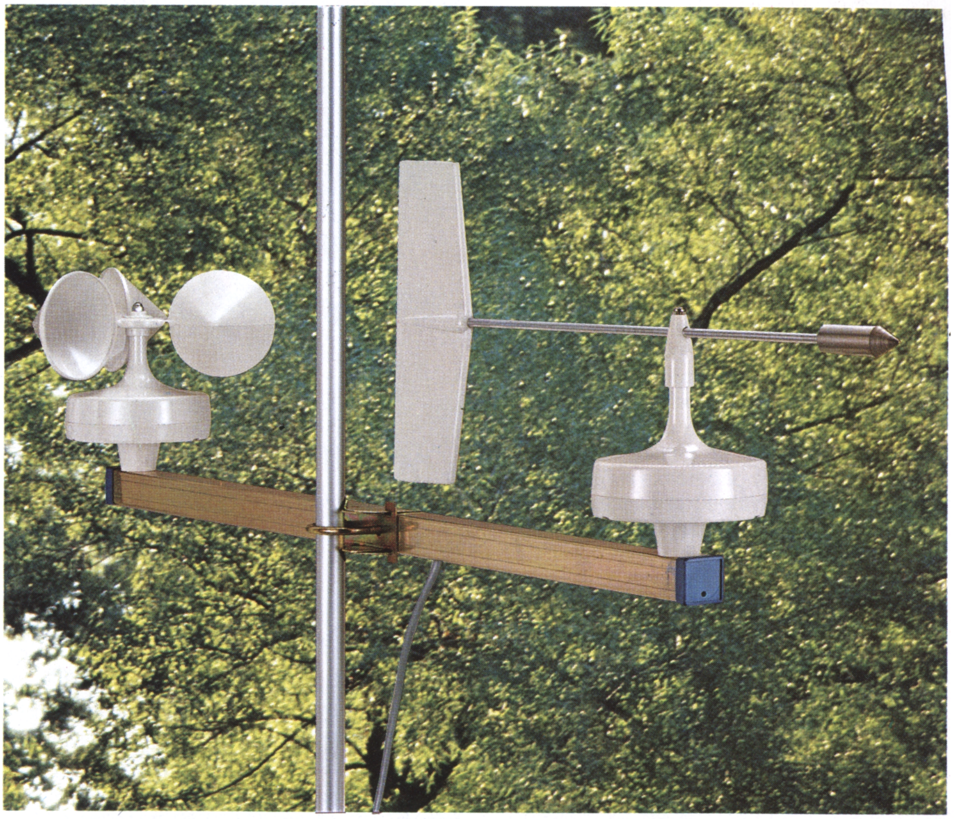
We have had one of the new Heathkit Weather Computers in our offices and have had a chance to watch it perform.

The other day a big storm hit our area knocking down trees and causing extensive damage. We were able to report to the local radio station and give them the time that the storm passed our area, the peak gust, and the low temperature that night. We've now been asked to report to them regularly.

Last month there was a rapid barometric pressure drop. Consulting our weather guide and the direction of the wind, we were able to predict a storm that arrived three hours later even though the sun was shining at the time of our reading.

There are many personal experiences we can relate about our use of the system. We've used it practically every day and feel it is the ultimate electronic device for anyone who is really interested in the weather. The Heathkit Weather Computer would have been impossible to build even a few years ago for less than a few thousand dollars. The various memory registers and the solid-state weather-sensing systems are new–products of today's micro electronics revolution.

If you are at all interested in or concerned about the weather, we urge you to experience the Heathkit Weather Computer in your own home or business. The system is obviously ideal for farmers, pilots, boat owners, fishermen, airports, or any business that depends on weather information. But you'll also find it an educational experience for the family or even a new and different hobby.



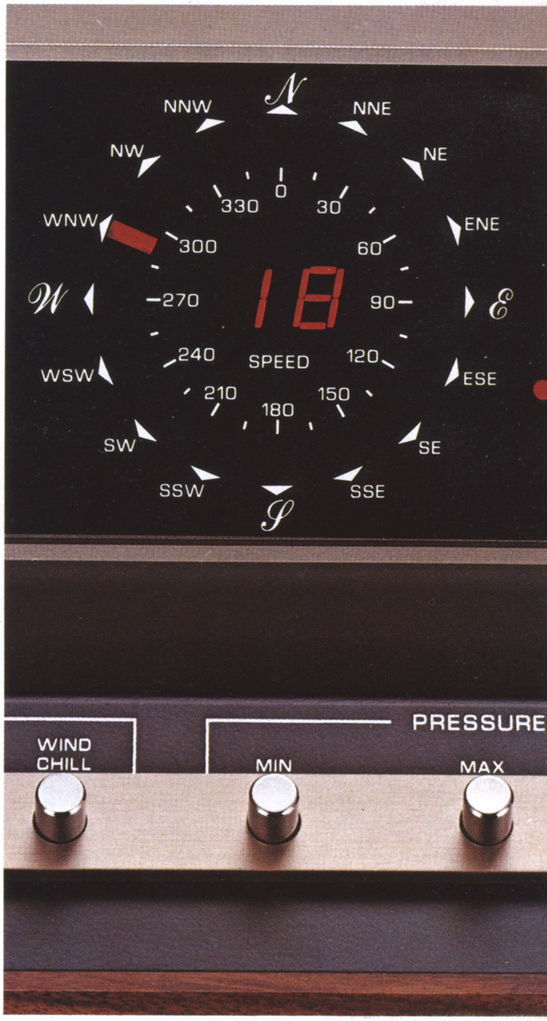
The wind direction and speed indicator shown above is a new concept in design. It is so responsive that it will move even with a one-third mile per hour wind. The total system makes use of new infrared technology described in this article.

The cost for the system completely assembled is only **$595**(4.50 Order Nr. **9010**). The wind speed and direction indicator mount easily on your TV antenna mast or any TV base, and 100 feet of cable and all clamps are included for its installation. The temperature sensors come with 70 feet of cable for the outdoor sensor and 10 feet for the indoor.

If you want to build one yourself, the parts cost only $370 and can be purchased directly from Heathkit. We will be happy to give you Heathkit's address if you wish to order the kit.

Heathkit is one of America's best known electronic kit manufacturers and good friends of ours. We were so impressed with their product that we asked them to assemble a number of Weather Computers for us–all tested and all set to operate–so we could offer them to our customers. Each unit is backed by Heathkit with a limited one year parts and labor warranty.

Space-age technology has brought us new tools that monitor and predict the weather. If you are either fascinated by the weather or dependent on the weather, you can't get yourself a more exciting new product. Order your Heathkit Weather Computer at no obligation, today.



The points of the compass are shown both in direction and by degrees from north. It is ideal for pilots, boaters and weather forecasters.

Diamond Laser Technology

Owning diamonds is risky. Now laser technology removes these risks with a new concept in diamond identification.

Americans like diamonds. Diamonds have consistently increased in value, they never wear out, and they can be worn and enjoyed.

But buying diamonds has always been risky. Because most of us don't know that much about them, we end up paying too much. Unlike gold that can be evaluated by weight, diamonds require both weight and judgment. Even the country's top diamond investment houses sell diamonds at or above their retail value. And then there is the problem of selling your diamonds. If you buy at retail and later sell, it often takes years before you can recoup the cash you paid for them.

Now, thanks to laser technology, there is a way Americans can own the finest diamonds at the greatest value in complete confidence while also having extra protection against loss.

The process utilizes a new application of existing laser technology to identify diamonds and an appraisal system that guarantees accurate gemmological evaluation of each diamond.

There are $26,000 in diamonds being held in this hand. Diamonds are one of the smallest yet most valuable assets one can own.

THE IDENTIFICATION SYSTEM

Scientists have discovered that when a diamond is penetrated with a low-energy laser beam, the diamond emits a light refraction pattern. This pattern is to the diamond what our fingerprints are to us—a unique identification.

A special laser system was then developed to produce photographic reproductions of these refraction patterns called 'scatter diagrams.' The system offered several advantages to consumers. First, it offered protection. If you've feared leaving your diamond ring at a jeweler, your fears are well founded. Jewelers are traditionally honest. But how would you know if your diamond was switched with a low-grade version at one-fifth the value? You'd never know. With a laser scatter diagram of your diamond, you can eliminate this fear.

The presentation box is sealed but the diamond can be easily examined.

And then there's security. With a scatter diagram, a stolen diamond can be identified. It's like putting an identification number on your TV or knowing the serial number of your camera. When the police recover the gem, they can positively identify it as yours, and you can legally claim it.

But there's more. Governmental agencies are now working with industry to develop a computerized system of gem identification using this system. Eventually, a diamond recovered by police in New York can be traced to its Los Angeles owner.

If you wish to have a laser scatter diagram of your gems, you'll have to wait. The program won't be in full operation for a few years.

But can this system help you purchase diamonds now? Not really. There's still the problem of quality and value. After all, all the scatter diagram does is identify the gem. But there's more. First, a small lesson on how to determine the value of diamonds.

COLOR, CLARITY, CARAT, AND CUT

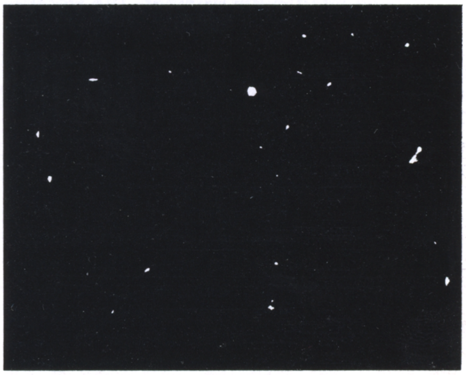
Diamonds are weighed by carats and points. There are one-hundred points to a carat. A carat is one-fifth of a gram or there are 155 carats to an ounce. But the weight of a diamond does not assure you of value, despite what you've heard.

Practically all diamonds have flaws. In fact, a flawless diamond is such a rarity that less than two-tenths of one percent can be classified as flawless. The absence of flaws is referred to as a diamond's clarity. But clarity doesn't mean perfection.

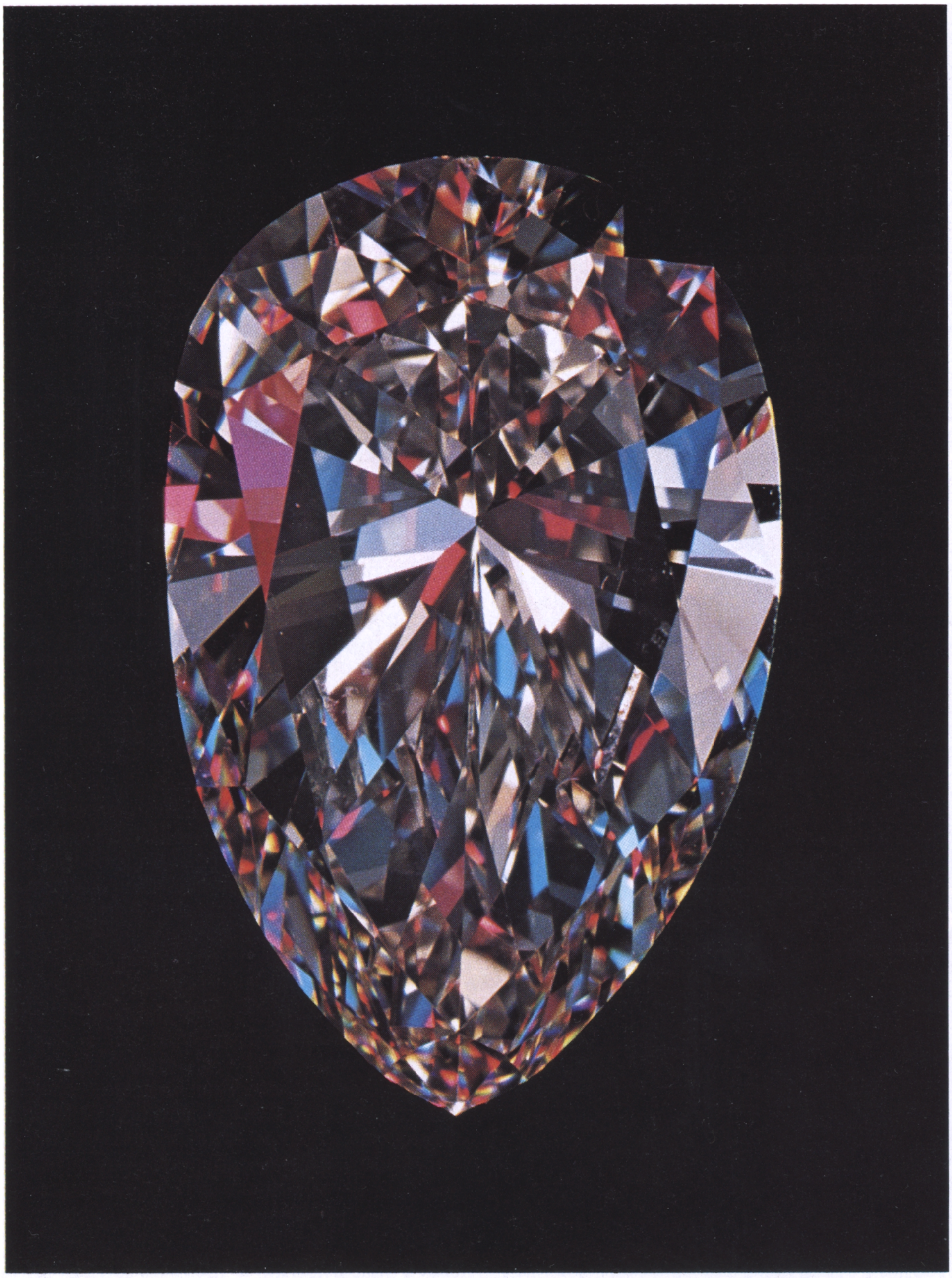
You may have a flawless diamond, but its color may be on the yellow side. So diamonds are also judged by the lack of yellow. The less yellow a diamond is, the more valuable. A white diamond is very rare, and diamonds with slight shades of pink or blue are extremely rare as is the Contrail Diamond shown above.

Once you find a flawless white diamond, you have to determine the cut. There are seven basic diamond cuts: round, marquise, pear-shaped, oval, emerald, heart, and triangle. In the opinion of many diamond cutters, the round diamond is the most valuable because it is the most popular with 80% of all diamonds this shape.

But what if you wish to purchase diamonds? Where can you go to buy them with the confidence that you are getting what you pay for?



The laser scatter diagram.



The Contrail Diamond is a rare, flawless diamond weighing 11.77 carats. Because of its rarity, clarity, and color, it is being offered here for **$500,000** *(Order Nr.* **0500***). Delivery to your vault will be accomplished at our expense. The pear-shaped diamond is slightly pink in color and is completely flawless. It is a prime example of how valuable a truly rare gem can be. The Contrail Diamond comes complete with a Gemmological Institute of America certificate and a laser scatter diagram. The various facets of the diamond reflect various color patterns created during its photography.*

There is no place. At a store, you may be able to eventually get a laser diagram, but you still deal with the opinion of that jeweler, his profit schedule, and his opinion of the diamond's value. Firms that sell diamonds as investments generally sell them at full retail or above.

LASER DIAMOND PURCHASE

Thanks to laser technology, JS&A has developed a program that might just solve all the problems of consumer diamond purchasing.

JS&A has arranged to import diamonds directly from Antwerp, Belgium. These diamonds are then submitted to an independent gemmological evaluation laboratory where their color, clarity, weight, proportions, and measurements are examined. A laboratory analysis is then prepared for each gem along with a diamond certificate. The analysis is so thorough that each gemmological report must be signed by two certified gemmologists.

A laser scatter diagram is then prepared for each diamond. The scatter diagram is placed in a special Diamond Report along with the findings of the laboratory.

The diamonds are graded for their color and clarity in accordance with uniform international criteria which are understood and accepted throughout the world. In fact, the evaluation of the diamond certificate is accepted world-wide as a basis for establishing the value of the gem.

The diamond is placed in a clear acrylic case so it can be examined through the case without distorting its clarity or color. The case is labelled and sealed and cannot be opened unless you destroy the seal by opening it with a conventional can opener.

JS&A then offers these gems to you in a velvet presentation pouch along with a diamond information booklet and the various reports.

You can then store these gems in your safe deposit box. You can collect them just as you would gold coins. You won't have the weight of gold nor a size or verification problem when you sell them. Diamonds are indeed a very practical commodity to save.

Having your diamond in a sealed acrylic container is nice for saving and collecting, but let's say you want to enjoy them. You can eventually take those diamonds to a jeweler and have him put them on a ring or pendant.

A laser diagram can also be made from a diamond in a setting, so you are always protected. Or give a diamond as a gift. The certificates, reports, and containers make a very impressive gift for your loved ones.

But what happens when you want to sell? Simple. With your certificate and laser print, you will be able to sell your gem more easily. And JS&A will buy back your diamond any time within one year and return your money if for any reason you are dissatisfied. Diamonds rarely drop in value, so even our risk is small.

The diamonds offered in this program are below retail yet include all of the extras to ensure value and security not available on the retail level. We invite comparison with any other retail, discount, or investment diamond merchant.

Should you own diamonds? What do you think? We think you should if you want a distinctly different way to save your money.

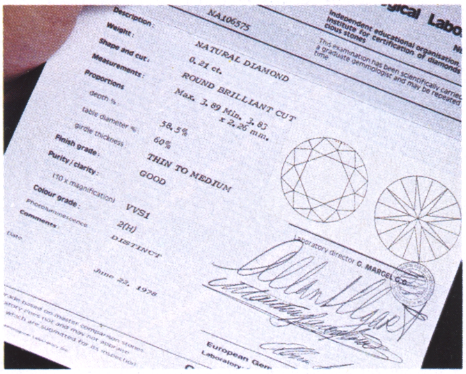
HOW TO ORDER

To purchase a diamond from JS&A as part of this program, select the price range listed on the order form in the center of this catalog. Prices range from $500 to $500,000 for the Contrail Diamond shown above.

We will then process your order, ship your diamonds by registered mail, and supply you with your personalized diamond certificate, gemmological report, sealed acrylic case, pouch, and diamond information booklet.

If you wish to give a diamond as a gift, we urge you to act quickly. Let us know the name of the recipient, as that name must appear on the report.

If you're thinking of diamonds for gifts or for collecting, we suggest that you purchase them from JS&A. We guarantee your satisfaction, and you have the security of knowing that you will receive outstanding value and protection. Order a few at no obligation, today.



Independent educational organisation
Institute for certification of diamonds

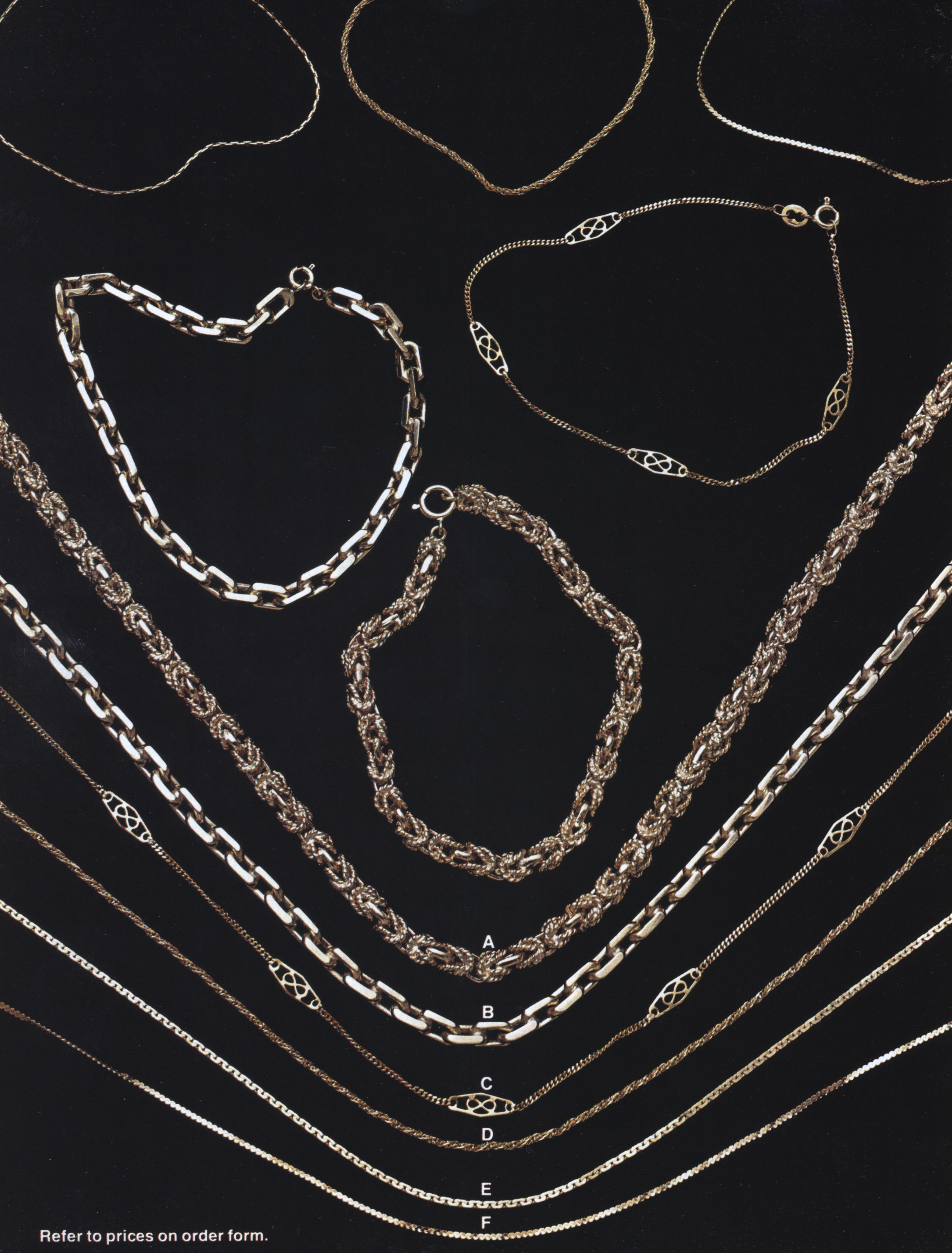
NA106575

Description: NATURAL DIAMOND
Weight: 0.21 ct.
Shape and cut: ROUND BRILLIANT CUT
Measurements: Max. 3.89 Min. 3.83 x 2.26 mm.
Proportions
depth %: 58.5%
table diameter %: 60%
girdle thickness: THIN TO MEDIUM
Finish grade: GOOD
Purity/clarity: (10 x magnification) VVS1
Colour grade: 2(H)
Photoluminescence: DISTINCT
Comments:
Date: June 22, 1978

Laboratory director G. MARCEL G.G.

European Gem

The gemmological report is signed by two certified gemmologists and is understood and accepted throughout the world.



Refer to prices on order form.

Gold Space Chains

Dress her in style for that next trip through outer space with America's first space-age gold chains.

Our good friend, Bob Ross, is one of America's top wholesale jewelry representatives.

A few months ago, Bob approached us with a suggestion. "Why not offer gold chains to your customers?" We rejected the idea, for our catalog must only contain products that relate to space-age technology. And besides, it was too late; we had just passed our deadline.

But Bob persisted, "Most of your readers are men. Why not give them something they could buy for their wives or loved ones? After all, you offer them all sorts of neat things to buy for themselves, but other than a good watch, there's nothing for the lady."

SUGGESTION REJECTED

We could not accept Bob's argument. Although we have a 90% male readership, and although we felt that our customers might indeed want to buy jewelry from our catalog, we felt that our strict adherence to the principles of space-age product selection precluded our making any variation in our philosophy.

Then Bob tried to appeal to our sense of profit. "Your customers are wealthy and smart. Offer them gold chains at very low prices. You'll sell a ton because they have the money to spend, and they have the brains to recognize good value."

Again we had to disappoint Bob. True, our customers earn an average of $50,000 a year, higher than practically any other buying group in the country. And true, our customers include some of the nation's leading businessmen, politicians, newscasters, doctors, and even movie stars. But we could not justify the violation of our principles and take advantage of an opportunity just because our customers are above average. "Sorry Bob," we said. "JS&A has an important reputation to maintain."

HE DOESN'T GIVE UP

Bob is quite a successful salesman. He never gives up until he has exhausted all arguments. A good salesman is persistent, and Bob certainly persisted. He just wouldn't give up.

Bob's cousin.

"Why don't you call the gold chains 'Space Chains'—space-age jewelry for the lady you want to take on that trip through outer space? After all, giving it a space-age theme really makes it tie nicely into your catalog, and besides, gold is a valuable metal found on many of the planets in outer space."

"That would be deceiving," we told Bob. To think that we could use a flimsy theme like that to tie such an unrelated product to space-age technology was almost an insult. It was at this point that we thought seriously of asking Bob to leave. "Bob, you're a nice guy and we've known you for years, but you'll have to leave now."

ENTER BOB'S COUSIN

But Bob pleaded. "Let me show you one thing before I leave. My cousin Joy is very pretty, and I'm sure she would be happy to model the jewelry for you in your advertisement." Bob then took a photograph from his wallet and showed it to us.

At this point, Bob had worn out his welcome. We were surprised to discover that he would stoop so low as to use one of his relatives as a means of getting his products displayed in our catalog. But then we gave the whole matter some very serious thought.

"Actually Bob, space-age jewelry isn't a bad idea for our catalog. After all, the only items we have for women are watches. Gold Space Chains might go very well. Of course we would keep our prices low to provide some real bargains, and I'm sure our customers would appreciate the convenience of being able to buy such a valuable gift. Bob, can she be at our photographer Tuesday so we can make our extended deadline?"

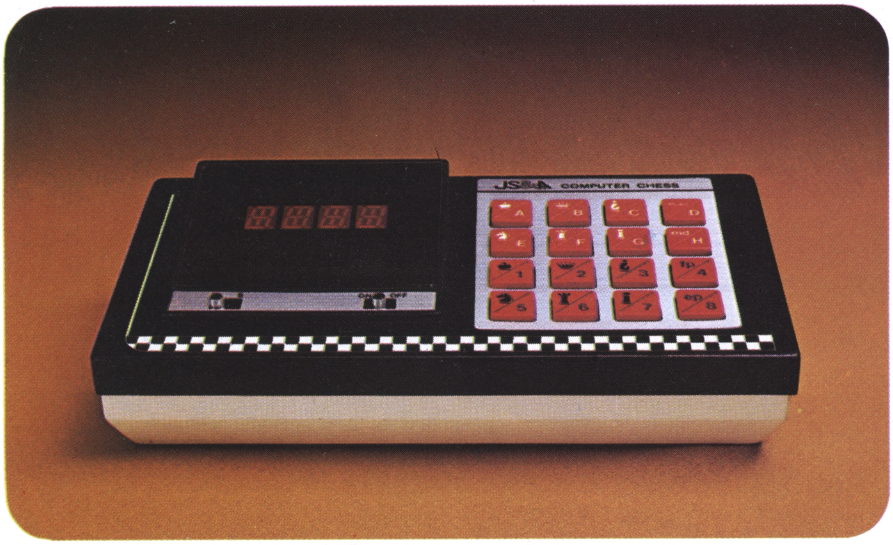
"Sure," said Bob. "But what about the selection?"

"Who cares about the selection? Why don't you just pick the most popular styles in various price ranges, and we'll have those photographed too."

Bob left quickly. He selected the chains and his cousin is shown above.

We did keep our prices considerably less than any jewelry store or catalog discount showroom. In fact, if you have a chance, you might compare. Or compare them after you receive the chains. 14 carat gold makes a nice gift for any lady and with our space-age theme, what a combination!

Bob's a funny guy. He probably thinks he's quite a salesman. Actually, if it wasn't for our open-mindedness, our keen ability to recognize outstanding new space-age-oriented products, and our compelling desire to satisfy the needs of our customers, Bob wouldn't have a chance.



Chess Robot

Six levels of chess and a powerful micro processor.

It's a chess-playing robot. The new JS&A Chess Computer is not only programmed with the rules of international chess, but it has a brain that thinks for itself.

You enter your move and the computer examines all the probabilities and makes its move. There are six levels of play–from beginner to professional–so the game increases in difficulty as you become more proficient. And you can change levels right in the middle of a game if the robot starts to beat you.

The computer is small, easy to store, and is played with your own board and chess pieces. The JS&A Chess Computer has been programmed to handle all the international chess rules including castling, *en passant,* and pawn promotion. The entire unit is housed in a handsome case only 4" x 7" x 2½" high, weighs 14 ounces and comes with an AC adapter.

One of the major breakthroughs has been its price. The JS&A Chess Computer is available for only **$99.95** (2.50 Order Nr.**4004**) complete with AC adapter and complete instructions. If you play chess, you already own half of the system–your board and chess pieces. With JS&A's Chess Computer, you'll own the other half plus a very clever opponent.

Sugar Pill

New learning system makes math fun.

MATHEMAGICIAN
LET HIM TEACH YOU
BASIC·INTERMEDIATE·ADVANCED
try this one
that's right
my answer
score
APF
FIND THE GOOEY GUMDROP
LUNAR LANDER
WALK THE PLANK
NUMBER MACHINE
FOOTBALL
count by

Not everybody likes math. And if you've got children, chances are they don't like math either. The APF Mathemagician is designed as a sugar-coated pill for children who hate math but love to play games.

The Mathemagician has over 16,000 problems programmed into its very sophisticated computer plus six games that use these problems. Both the math games and problems are all designed to teach.

The math games are genuine fun–all designed by a math professor and geared to various skill levels. As your skill improves, you advance to the next game. And the challenge grows for beginning math students right on up to adults. It's also a four-function, 8-digit electronic calculator that adds, subtracts, multiplies, and divides.

Under each unit is a sliding tray that you pull open to remove six colorful plastic panels. You place one of these panels over the upper portion of the calculator. Each panel blocks off certain parts of the display leaving only those portions used in the respective games.

You then select a game by entering a number. Now you're all set. One or two people can play, and the score will flash after each round. Each game is unique, and it's like a totally new game each time you change the panel.

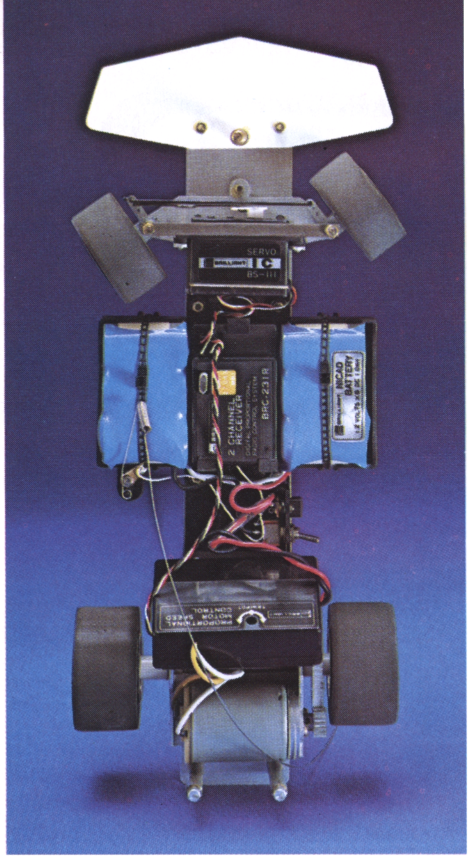
To win at many of the games and exercises, you've got to use your math ability, logic, common sense, and thinking skills–yet there's enough math for an entire family from first grade through high school.

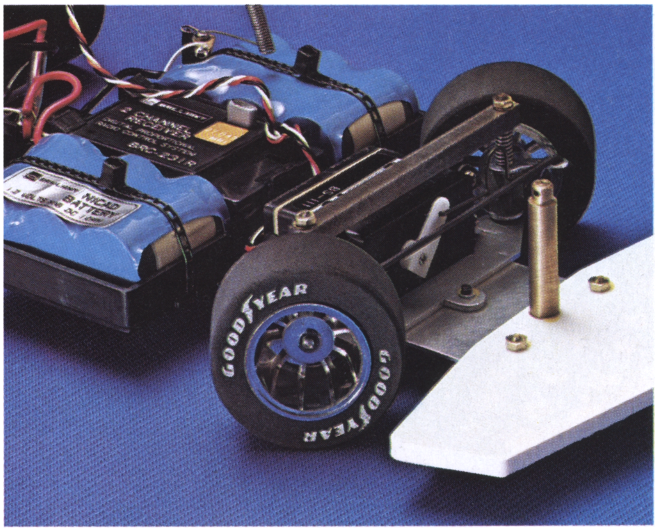
The math programs are totally separate from the games. They let you practice numbers that normally give you difficulty. They let you practice math tables. And in division problems, they work with fractions by displaying the whole number and the remainder.

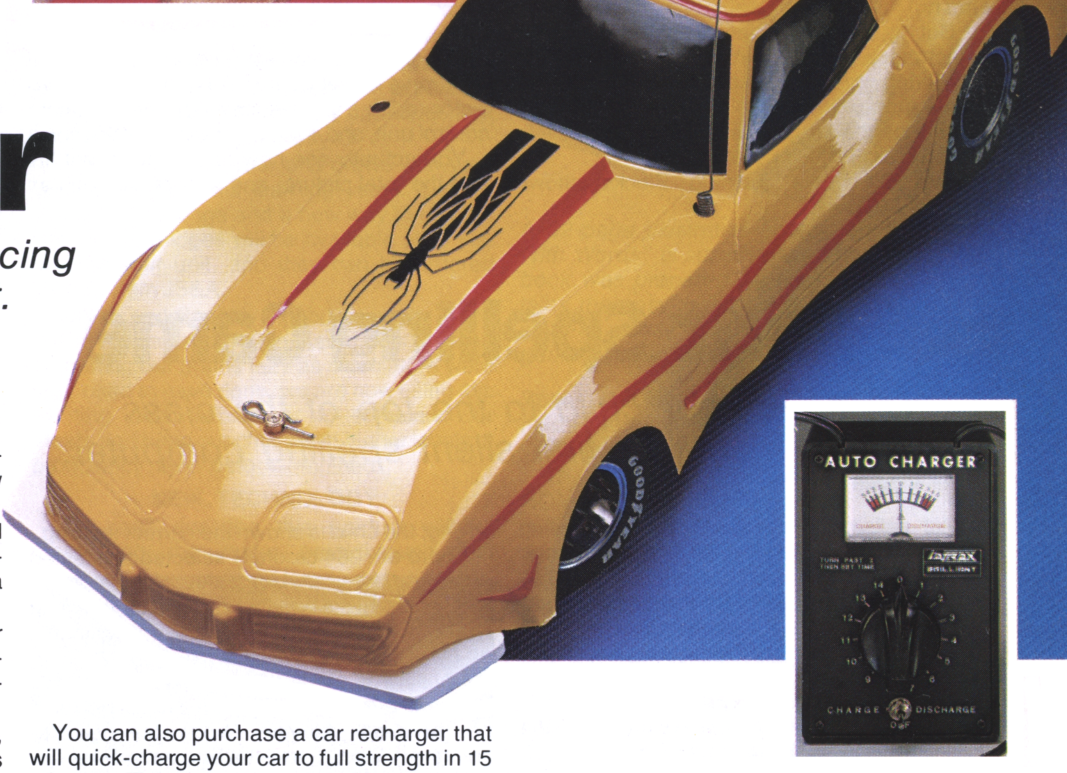
Numbers move across the display on the Mathemagician from right to left similar to a movie marquee. This adds a very different and exciting action touch to the unit.

You can program practically every level of math ability right up to the genius level and keep the unit a challenge from the moment your child first uses it to the day he or she graduates. If you guess an answer wrong, the unit tells you and the correct answer appears. The display contains large over-sized digits.

For **$19.95** you get an incredible value. You get a calculator worth $19.95 by itself, six games, and an educational system you couldn't buy anywhere for twice the price. See exactly what we mean by ordering at least one Mathemagician with something else you order from this catalog. It will be the best investment you can make in your family's math future. Six-month limited warranty. Only **$19.95** (2.50 Order Nr. **4070**). The AC adapter is only **$5.95** (Order Nr. **4071**). Batteries not included.







Radio Control Race Car

Radio-controlled auto racing has become a big sport. Here's the hottest car on the circuit.

The Corvette shown here is one of America's hottest, fastest, and most advanced new model race cars.

It has been clocked at up to 30 MPH (actual ground speed) and is controlled by a 750 milliwatt remote transmitter from as far away as a quarter mile.

The Corvette costs only **$120** (3.50 Order Nr. **4050**) and comes complete with transmitter/control unit and six rechargeable batteries.

The car will withstand tremendous impact, and its Lexan body will take tremendous abuse. The body shell can be lifted off simply by removing a few cotter keys, so you can change colors, decorate your own shell, or clean the interior of the Corvette. The racing slicks used on the car are formulated especially for the type of racing done by the car. In fact, for best handling and speed, there's also an accessory kit containing four racing slicks designed only for racing for **$18** (1.00 Order Nr. **4051**).

You can also purchase a car recharger that will quick-charge your car to full strength in 15 minutes. The average running time of the car is one hour. The auto charger is **$29.95** (2.00 Order Nr **4052**).

The Corvette has already won the 1978 Nationals at a model car race at North Attleboro, Massachusetts and contains the most powerful electric motor allowed in racing competition. Even the chassis is made of aircraft grade aluminum to take tremendous abuse.

If you really want the ultimate in model car racing and the finest car and value available, purchase our racing Corvette. There's a 90-day limited warranty, service-by-mail facilities, and the 30-day JS&A trial period.

Why not discover the new sport of radio-controlled model car racing with the best you can buy—a JS&A racing Corvette?

Electronic Building Blocks

Inspire future electronic geniuses and teach electronics the easy way without burning down the house.

One of the best ways to teach your children electronics is to hand them a soldering gun, a Heathkit, and a set of instructions.

But for some children, a soldering gun ends up burning down the house or producing a nice blister on the left index finger. Soldering guns are great tools for the experienced technician but not for the kids.

But assume your brilliant offspring is an electronics genius and capable of using a soldering gun to build something. Once those parts are soldered, they can't be unsoldered, and once that project works, boredom sets in and the project ends up on a shelf.

The Electronic Building Blocks shown above are a way to eliminate the soldering gun and the wasted parts that end up sitting on your shelf. Each block in the system represents an electronic component—a resistor, a capacitor, a transistor, etc. Even the component's symbol is printed on the top of the block along with the connecting wires so you know which component connects where.

You have 100 projects you can make simply by plugging the correct blocks into a special electronic circuit board. You can build a transistor radio, a wireless microphone, a remote control unit, and even a garage door opener.

You actually see how each component fits into the total picture, and best of all, you can remove the blocks and start a new project. There are no wasted parts to sit on your shelf.

Even if your child makes a mistake, the set won't blow up the kitchen table. All power is supplied by small batteries. And there's no chance of burning the house down or having your child burn holes in the floor because there's no soldering gun.

If you're looking for an educational toy that will make an electronics genius out of your child and keep your fire insurance premiums low, we strongly recommend our Electronic Building Blocks. Only **$49.95** (2.50 Order Nr. **4060**).

Silent Spelling Game

Catapult your child to the top of the class with the world's first silent spelling computer.

We call it the world's first silent spelling computer because the spelling computer shown to the right talks. And after all, you may want one that keeps its electronic mouth shut.

That's why we're offering the Spelling B. It's the silent partner of the Speak and Spell designed for beginning spellers and potential brain surgeons.

Now don't expect it to be as clever as the Speak and Spell. It isn't, but for **$29.95** (2.50 Order Nr. **0810**) you'll be able to teach beginning spelling in a very logical way.

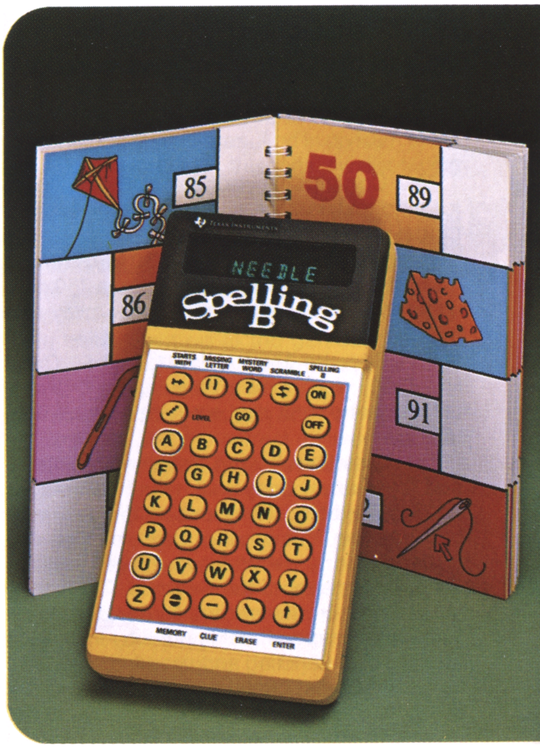
The Spelling B selects and displays a number at random. The child looks up the number in a book and sees a picture. The child then tries to spell what is seen by pressing the lettered buttons on the keyboard. If the child spells the word correctly, the spelling B acknowledges the answer. If it's wrong, the child is given a second chance, and if it's still wrong, the child is shown the correct spelling.

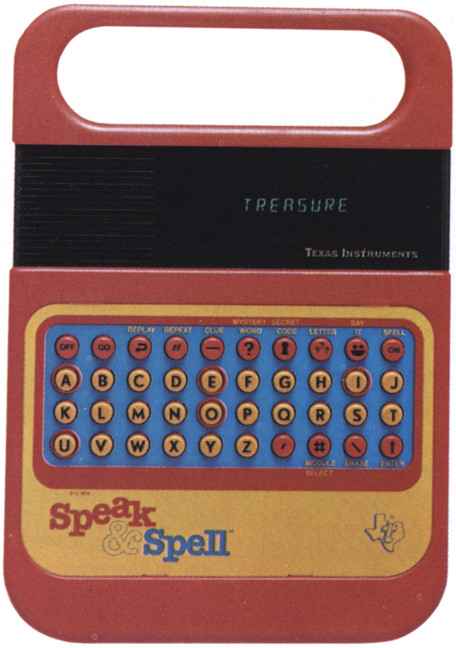
There are 264 carefully selected and tested pictures of familiar objects. And children aren't just limited to the words in the book. Additional words can be practiced by using an ingenious scramble memory. But that's not all.

Spelling B plays such games as Missing Letter (a letter is missing from a word and must be guessed), Mystery Word (the age old Hangman Game), and the Scramble Game .

Spelling B has three levels of difficulty up to grade four. The word/picture association clearly reinforces the learning process and creates a lasting impression.

You may not expect your child to become a brain surgeon, but you'll be amazed at how much can be learned from this well thought-out teaching system from Texas Instruments. Put your child at the head of the class. Order a Spelling B at no obligation, today.





Talking Computer

Texas Instruments' new teaching machine talks, spells, and plays games, but it's only the start.

Imagine a typewriter typing your words as you talk.

As incredible as that sounds, the new technology just introduced by Texas Instruments may be the first step in this direction.

The unit shown above is the first product using TI's new voice synthesizer technology. Called Speak and Spell, the unit contains 230 of the most commonly misspelled words in order of difficulty.

Speak and Spell asks you to spell a word which it clearly pronounces. Let us use the word 'language' as an example. You enter the letters of that word, and as you do so, the unit pronounces those letters. When you finish the spelling, you press a button, and if you were right, the unit says, "That is correct. Now spell 'treasure.'" If you had guessed wrong, the unit would have said, "Wrong. Try again," and you would have had a second chance. If you guessed wrong the second time, the unit would have said "Wrong again. The correct spelling is L-A-N-G-U-A-G-E."

FOUR SPELLING LEVELS

There are 230 words in the unit broken down into four spelling levels. They are words that are often misspelled from beginning level spelling to adulthood—words such as anxious, language, obey, and learn.

The unit provides the ultimate teaching method—reinforcement. Simply stated, reinforcement means that every time the student spells something correctly, the unit praises him, and every time the student answers wrong, it corrects. It automatically grades too. At the end of a block of ten words, it displays a score—the number of right answers opposite the number of wrong answers.

GAMES AND FUN

Speak and Spell is not just limited to a single spelling drill. It has a "Say It" function that acts as a pronunciation guide. It flashes a word on the display, waits while the student pronounces it, and then gives the correct pronunciation.

Play a game called Mystery Word. The unit stores a word in its memory. You try to guess the spelling by entering letters much in the same way as in the 'Hangman Game.' When you press the letter key, if that letter is stored in the memory, it appears on the display in the proper position in the mystery word. If you're wrong, you still have six more guesses. At the end of the game, the unit proclaims "you win" or "I win." The Mystery Word is also a favorite adult party game.

The unit features a mystery code game that automatically scrambles a word so that children can send secret messages.

EXPANSION PLUG

The unit is not just limited to the words or programs built into the system. An expansion plug will accept small memory cartridges that will raise the spelling difficulty.

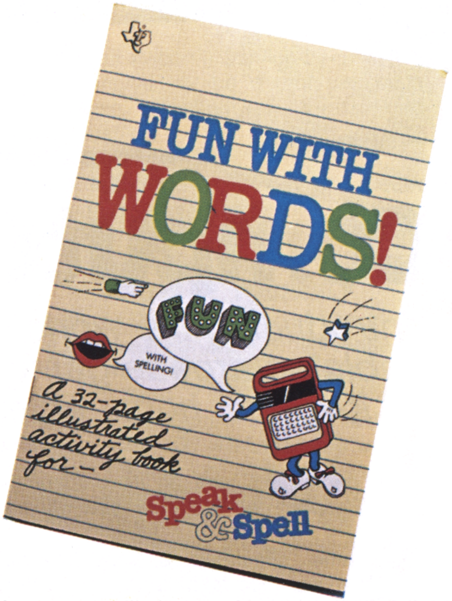
This means that your unit grows with your child throughout his learning years. There's always a challenge and a new way to use the system. Cartridges will be available once you receive your unit, and they can be ordered directly from JS&A.

Speak and Spell is a good example of the positive benefits of micro-electronics. Instead of making our brains lazy as calculators were supposed to have done, we are now using this exciting new technology to stimulate our minds and bring our children to higher levels of proficiency never before imagined.

NEW TECHNOLOGY

We can't describe this product without mentioning the major breakthrough that Speak and Spell represents. Its technology holds enormous potential in a few years when voice-command control will be a way of life.

Children of all ages are fascinated by the unit and can play it for hours while they learn.

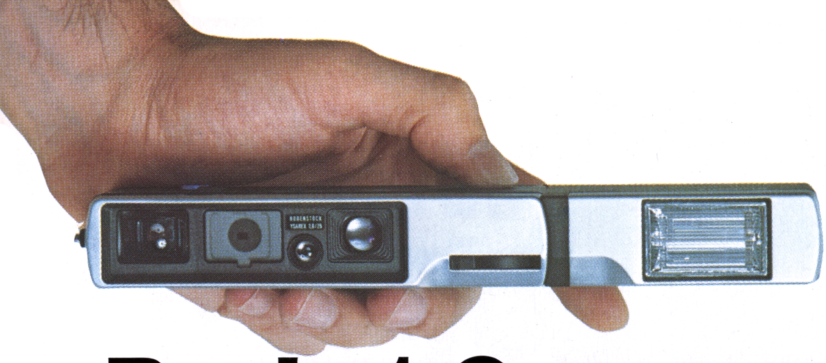


A 32-page illustrated booklet entitled "Fun With Words" is supplied with each unit. The book was prepared by educators and contains the easy-to-understand instructions as well as many of the stimulating spelling games and activities for your children.

The unit uses two newly-developed 256K ROM's. That's the equivalent of one-half million transistors—almost impossible to imagine just a few years ago.

Texas Instruments recorded a professional announcer's voice to pronounce and spell all the words and letters used in the unit. These sounds were converted to digital information and stored on the two 256K ROM's. The digital information is then converted into audible speech patterns through the use of an integrated circuit synthesizer and then amplified through a speaker. There are no strings to pull, no tapes to wear out, no records to replace. The entire system is solid-state and as dependable as today's pocket calculators.

We feel that the Texas Instruments Speak and Spell unit was so important that we featured it on the cover of our third issue. Why not see how far technology has progressed? Order a Speak and Spell at no obligation, today. **$49.95** (2.50 Order Nr. **4080**).



Pocket Camera Breakthrough

You can now have 35mm picture quality with a small 110 camera thanks to three new technology breakthroughs.

The 110 camera is a great idea. Because it's small, you can carry it with you everywhere. The film is smaller, less expensive, and easy to load and unload.

But it also has a few disadvantages. The film size is one half that of the 35mm cameras so picture quality isn't as good. And the automatic features you could buy in the best 35mm cameras aren't available in the 110 models.

Now, thanks to the new electronics and lens technology, all those features you thought you could get only in an expensive and advanced 35mm camera are now available in the new Chinon 1000 EL.

THE NEW LENS

The new Chinon 1000 EL uses the finest lens modern technology can produce. Made in Germany, the Rodenstock 4-element f:2.8 25mm lens is considered equal in quality to the finest 35mm lens. And Rodenstock is to lenses what Rolls Royce is to automobiles–their name on a 110 lens is a breakthrough in itself.

There's no comparison to the typical 110 camera lenses which are usually rated at f:9.5. The f:2.8 Rodenstock lets you take pictures under almost any lighting conditions.

THE NEW ELECTRONICS

An automatic CdS (Cadmium di Sulfide) electric eye controls the shutter speed. You select any f stop you wish and the electronically-controlled shutter responds with the exact speed required to produce a perfect picture. Speeds range from 4 seconds to 1/1000 of a second.

If the camera's electronic brain feels that the shutter speed will be too slow for a hand-held shot, a light blinks in the view finder to warn you to use a larger lens opening, a tripod, or a higher speed film. And remember, the shutter speed is not an exact fraction like most 35mm cameras. The speed can be either 1/17th of a second or 1/96th–the range is infinite.

THE NEW MATERIALS

The Chinon 1000 EL uses new space-age material, Makrolon, for its case–a material that makes it one of the lightest and most durable of any camera. Previous substances could not be molded to such close tolerances until the precision Makrolon case was developed for the Chinon 1000 EL. In fact, the entire camera itself weighs just a few ounces.

PLENTY OF FEATURES

There are plenty of other unique features that make the 1000EL one of the finest cameras made.

Focus System The dual-image range finder makes it easy to focus quickly. A sliding footage indicator adds to its operational simplicity, and you can set the distance in either feet or meters.

Leveraged Film Advance Just a short stroke of the film advance lever on the front of the camera advances the film its full distance. This rapid-advance system makes it easy to shoot several shots in quick succession.

Aperture Windows The f stop shows through two windows–one on the top of the camera and the other in the view finder. This permits you to always know your f stop quickly while shooting or while setting your camera.

A FAIL-SAFE SYSTEM

The camera was designed to eliminate the mistakes most of us make with our cameras. With its electronic brain, you automatically adjust for pictures taken from the light of a match to the sunniest sandy beach.

All the picture-taking information is in the view finder itself. You can see the lens opening, the focus, and the arrows to indicate over or under exposure. Even the flash attachment is fail-safe.

THE NEW FLASH

The flash is automatically coupled to the distance setting so you won't get close-up photos that are washed out or distant shots that are too dark.

And the flash flashes so quickly that you can freeze the fastest action shots producing sharp, properly-exposed pictures.

THE ENTIRE SYSTEM

The Chinon 1000 EL is not just a camera but a complete system. Not only do you receive the camera and flash attachment, but you also receive a table-top tripod, all the batteries (readily available at any camera store), a metal wrist strap, and a leather camera pouch.

Chinon is the largest movie camera manufacturer in the world and one of the fastest-growing camera and optical companies. Chinon backs their camera with a solid two-year limited warranty valid world-wide at any of Chinon's international service centers and at their national service-by-mail facility. Service should not be a problem, but it is reassuring to know that your camera is backed by a substantial company with world-wide service locations.

JS&A feels that the quality and electronic innovations represented by the 1000 EL make it the nation's most outstanding new camera buy and well worth its suggested $300 price.

PROVE IT YOURSELF

We would like to give you the opportunity to prove the quality and the convenience of this new Chinon system. Order the Chinon 1000 EL for only **$250** (2.50 Order Nr. **9450**) complete. We'll send you two rolls of Kodak color print film–one 400 ASA and the other 100 ASA. Use the film free as a gift from us. Take photos with available light. Take flash pictures. Take outdoor color shots. Really put the camera through the paces–all with the free film that we supply.

Then after you get your prints back from your drugstore, examine them closely. Note the sharpness of the photos, the clarity of all details, and how colorful and perfectly exposed the prints are. Then compare the print quality with your 35mm camera. We think you'll be amazed. After you have thoroughly convinced yourself of the quality and convenience of the 1000 EL, then decide if you want to keep it. If it isn't more than we say it is or if you're not convinced from your comparison tests, then simply return your unit and we'll even refund our $2.50 postage and handling charge. You keep the film as our "thank you" for at least trying the system.

If you order the system from us now, we will send you free, along with your camera and accessories, a gadget bag to hold your entire system, a small photo album, a packet of lens tissue, plus a free cable release for available-light time exposure pictures.

You may already own a good quality 35mm camera and are reluctant to carry it with you wherever you go. Or you may own an excellent 110 camera but you are not 100% satisfied with the results. That's why the new Chinon 1000 EL also makes sense as the perfect second camera.

Here's a great opportunity to own a simple yet high-quality space-age electronic camera at an outstanding price. Order your 1000 EL at no obligation, today.

DUPLICATION TECHNOLOGY

Unfair Copy

The watch shown here is a copy of the world famous Seiko chronograph alarm. Unfair? You be the judge.

MERCURY
QUARTZ LC
CHRONO/START/STOP
DATE/DAY/SEC
ALARM
CHRONO
22
6.12
SPL
LAP
HOUR
MINUTE
CHRONO
FUNCTION SELECT
CHRONO RESET
LIGHT

All the features of the Seiko watch are duplicated in this digital watch. It is an excellent example of the fierce competition in the United States.

It's really a shame. The watch shown above **is** a copy of the Seiko chronograph alarm.

Seiko is one of the world's most respected watchmakers, having literally taken over the quartz watch industry. Their quality is outstanding, and they have produced many great innovations in the digital watch industry.

The Seiko chronograph alarm sells for $300. The watch costs jewelers $150. And jewelers love the item, not only because of the excellent reputation of the Seiko brand, but because it's probably America's best-selling new expensive digital watch. And Seiko can't supply enough of them to their dealers.

The Mercury copy shown above looks almost exactly like the Seiko and costs dealers approximately $50. Most dealers are selling it for $100, and they're selling them as fast as they get them.

LABOR EXPENSIVE IN JAPAN

Unlike the Seiko watch which is made in Japan, the Mercury is manufactured under special contract in Hong Kong by a prominent American watch manufacturer. The watch uses basically the same components as the Seiko, but the differences lie mainly in the labor. Hong Kong's labor costs are far less than in Japan. An average Japanese watch assembler makes the equivalent of $75 per day whereas the equivalent employee in Hong Kong makes only a few dollars per day.

The value of the yen has skyrocketed while the Hong Kong dollar has changed little in comparison to the U.S. dollar. So all Seiko products have become even more expensive to export.

BOTH BACKED BY SERVICE

The Seiko is backed by a national network of service centers. The Mercury is backed by a very efficient service-by-mail center. Since the latest crop of space-age digital LC watches require very little service other than battery replacement, which any jeweler can do, service has become less a concern.

Why then would anyone want to buy a copy of the Seiko? For several reasons:

Savings JS&A has obtained sufficient quantities of the Mercury to offer you the item for as low as $69.95.

Support Mercury is a division of Leisurecraft Industries, a public company that specializes in obtaining the best digital watches and insuring their value with excellent service, support and quality.

Quality You'll be amazed at the excellent quality of the Mercury, especially compared side by side with the Seiko.

Accuracy The Mercury is guaranteed accurate to within 15 seconds per month, although much greater accuracy can be expected.

THE BEST FEATURES

The alarm chronograph has an alarm that really wakes you up. Its chronograph measures time to one hundredth of a second and has three settings: **split** which continues counting the split seconds while you freeze the time for reading, **add** if you want the total time of several periods, and **lap** which starts counting from zero when you press the button.

You have hours, minutes, seconds, day of the week, the month and date. The Mercury Quartz LC also remembers the days in a month and automatically recycles to the correct first day of the next month.

EXAMINE THE FEATURES

Order the Mercury from JS&A on a trial basis. Compare it feature for feature with the Seiko. Compare its accuracy, its alarm, and its chronograph functions.

If after a truly side-by-side comparison, you aren't convinced that its accuracy, quality, and features make it a truly outstanding value, return it within 30 days for a prompt and courteous refund. We promise to accept the return of your watch with absolutely no questions asked and even refund the $3.50 postage and handling.

AMERICA'S LARGEST SOURCE

JS&A is America's largest single source of space-age products—further assurance that your modest investment is well protected.

The new crop of digital watches rarely malfunction, but if service is ever required, it is reassuring to know that there is a prompt service-by-mail facility, a one year limited warranty and two substantial companies backing your modest investment.

To order your Mercury Quartz LC, send your check for **$69.95** for the silver-tone model or **$79.95** for the gold-tone along with $3.50 per order for postage and handling (Illinois residents, please add 5% sales tax) to the address shown below or credit card buyers may call our toll-free number below.

Is it unfair to copy a popular expensive watch? America's growth can be traced directly to the principle of open competition. Open competition has not only been the catalyst for innovation, but it is also responsible for bringing better value to a free marketplace. Unfair? Maybe if you were Seiko it would be. But then we're all not that lucky.

Your timing is perfect. Why not order the Mercury LC at no obligation, today.

JS&A® NATIONAL SALES GROUP

Dept. AI One JS&A Plaza
Northbrook, Ill. 60062 (312) 564-7000
Call TOLL-FREE **800 323-6400**
In Illinois Call .... **(312) 564-7000**

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This advertisement reprinted here as it has appeared in many national magazines, is one of our most successful. You may order the watch above by using Order Nr. ***0102*** *for the gold-tone model, and for the silver-tone model use Order Nr.* ***0101****.*

New Trends

Solid-state electronics, solar energy, and new technologies have created a new market for the latest in watches.

CITIZEN
MODE
LIGHT
START/STOP
7:01
PM
18
SELECT
ALARM1
ALARM2
CHIME
TIMER
STOP.W
MULTI ALARM
READ/SET
RESET

Watches continue to change. Now the consumer has several options to choose from when he decides to purchase a new watch.

There's a very logical way to decide on which solid-state timepiece to purchase. But before we discuss the questions you should ask yourself, you should know a little about the history of digital watches.

A LITTLE HISTORY

When the digital watch first appeared, it held certain advantages over the analog (with hands) watch. It used quartz crystals which provided extreme accuracy. And it had a little space-age magic. When you pressed a button, small red numbers appeared on a display. For most Americans, this was really exciting. The market grew.

But suddenly, Americans realized that the LED watches were maybe not that good. The batteries often needed replacing, the watches couldn't be read in sunlight, and pressing that button seemed rather awkward.

So along came the liquid crystal watches. They operated for years with the same batteries, the time was constantly displayed, and they could be easily read in sunlight.

But liquid crystal watches could not be read at night. So engineers designed a light that, when pressed, illuminated the liquid crystal display. Then in 1976, the Sensor Watch Company introduced the Laser Beam Digital Watch that used a self-illuminating display made possible by laser technology.

The digital watch reached its peak in 1977 when JS&A introduced the Sensor 440–a thin self-illuminating digital watch with a chronograph. The 440 is still a standard in the digital watch industry.

Now four new trends have emerged: the trend back to the analog watch, the trend to the computer on a wrist (the watch that does everything), the simple basic watch, and finally, the combination analog and digital.

HOW TO DECIDE

First you decide whether you want a digital or an analog. The analog watches use the same solid-state technology used by the digitals. And the digitals are now more sophisticated and better than ever before with better displays and more functions.

If you decide on an analog watch, you can select between a solar-powered one with time and date such as the new Citizen Solar-Powered Watch, or you can get a watch that has both features such as the Microma.

The Microma uses conventional hands with a read-out in digital format. You can read the digital display as a second time zone in 24 hour (military) time. And by pressing the button, the digital time changes to show the seconds or date. If you're a pilot, you can set the digital time to Zulu time, or if you travel frequently, you can use the second time as a dual time zone unit. The unit also features a stop watch, so you really have one of the most completely versatile watches available. The single battery in the Microma will last three years without replacement. We recommend the Microma if you want the best features of a digital watch but prefer seeing the hands to determine the time.

SOLAR-POWERED ANALOG

The Citizen Solar-Powered Watch never needs batteries. Just a small amount of light will keep this outstanding timepiece powered for years. The dial is inset with 8 silicon solar cell panels which convert light energy into electrical energy. The display also shows the day of the week and the date, and a red sweep second hand ticks off the seconds. The watch is rugged too. You can take it skin diving to a depth of 130 feet without fear.

We recommend either of the Microma styles shown or the Citizen analog watches. The Microma watch is Swiss made. The name Microma belonged to an American company but was sold to the second largest watch manufacturer in the world. The firm, a Swiss company, has set up a special service and distribution center in the United States, and we predict they will be a very viable company.

Citizen Watch Company is the real hidden innovator in the digital watch industry. They are a Japanese company who has introduced more major innovations than any other watch manufacturer. All companies mentioned on these pages produce outstanding products–all backed by solid warranties.

THE NEW DIGITALS

Your first decision when you buy a liquid crystal digital watch is to determine if the display is large enough. The new Fairchild and Microma large digit display watches have extremely easy-to-read digits. It makes no sense to invest in a watch you can't see, so always consider the display first.

On the Microma, the minutes are staggered slightly to make reading the time easier. Both watches show hours, minutes, seconds, month and date.

CITIZEN MEMO CHIME

The Citizen Memo Chime is one of the most complete of any of our multi-function watches. It features two separate alarms, a chronograph, and an elapsed timer. The elapsed timer can count up or down for up to 12 hours. There's a back light, an alarm monitor which lets you check the alarm sound, and a power cell replacement indicator light which lets you know when it's time to change batteries–usually around two years. The Memo Chime has a mineral glass crystal, is rain proof, and is truly a quality product. If you rely on your watch for time management, we recommend the Memo Chime for its accuracy, multi-alarm, and chronograph capabilities. The Memo Chime also chimes on the hour–a great time-organizing feature.

THE LASER DIGITALS

Thanks to laser technology, many of the liquid crystal watches automatically glow in the dark, thus eliminating the need to press any buttons at night. The four thin ladies' watches shown on the next page feature large digits and the glow-in-the-dark feature. They all display hours, minutes, seconds, month, and date and are very elegant. In fact, we had a prominent jewelry designer select the two models we are using in this catalog. The oval style watch has a suede-type band in dark brown for the gold-tone and black suede for the silver-tone model.

THE SENSOR ALARM

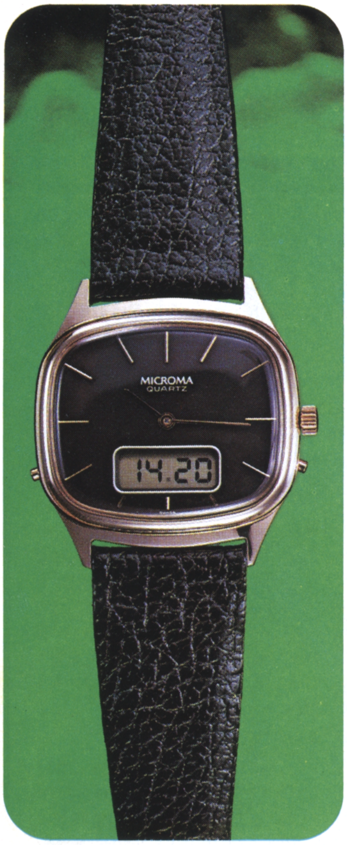
The Sensor Alarm watch not only uses laser technology for its back light, but it is also water resistant to depths of 100 feet, making it the only watch of its kind to pass low level water submersion tests. The watch features the hours, minutes, seconds, month, and date and comes in a very thin elegant case with mineral glass crystal. If you are looking for an alarm watch that can take the greatest abuse, we suggest the Sensor Alarm.

TEXAS INSTRUMENTS NEW CHRONO ALARM

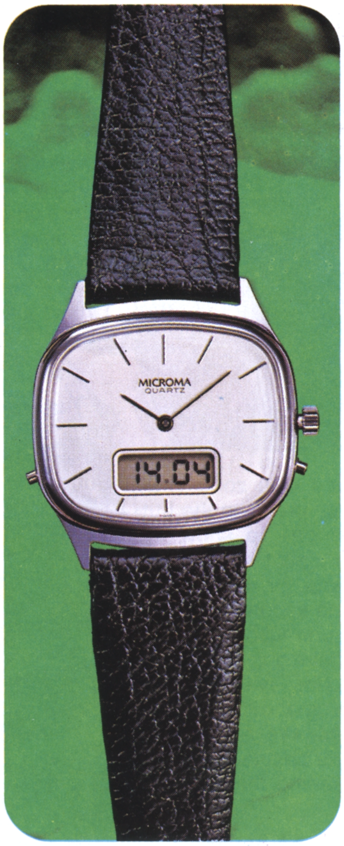
This Texas Instruments watch far surpasses the Seiko watch that we used for comparison purposes in our advertisement that appears on page 44. It also has the automatic back lighting and a few extra features such as dual time, day "flags" (a small arrow appears above the day of the week), and it has a fairly water-tight case that will resist most of our unintentional attempts to get it wet. When the alarm is activated, it is indicated on the display. It has dual time zone capability, and you can select the type of time you wish displayed (standard or military 24 hour). In our opinion, it surpasses the Seiko in many ways. If you are interested in the Seiko-style watch and want, without question, the best, we recommend the recently announced Texas Instruments Chronograph Alarm.

CALCULATOR WATCH

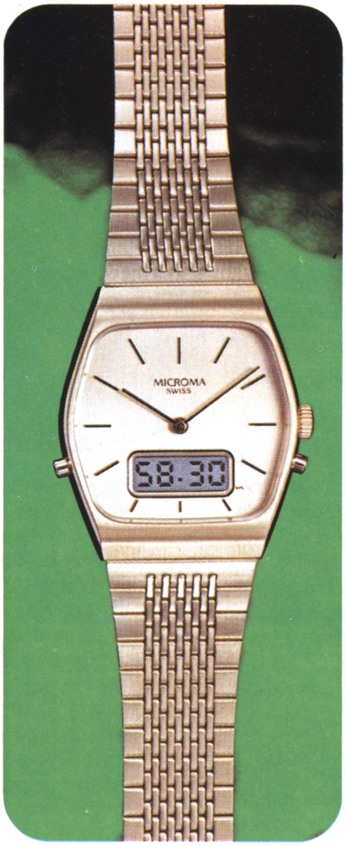
The National Semi Conductor Calculator Watch is an outstanding example of the sophistication in solid-state digital watches. It has a six-digit liquid crystal display that shows hour, minutes, and seconds. Using a ballpoint pen, you can change from the time to the calculator mode. The calculator is a full-function scientific with an exponential function. A wrap-around feature lets you display the next six most important digits, so you get highly accurate results. If you're interested in the finest looking calculator digital watch, we recommend the National Semi Conductor model available in gold-tone or stainless steel. Please turn the page for photos of all watches.


MICROMA
QUARTZ
14.20

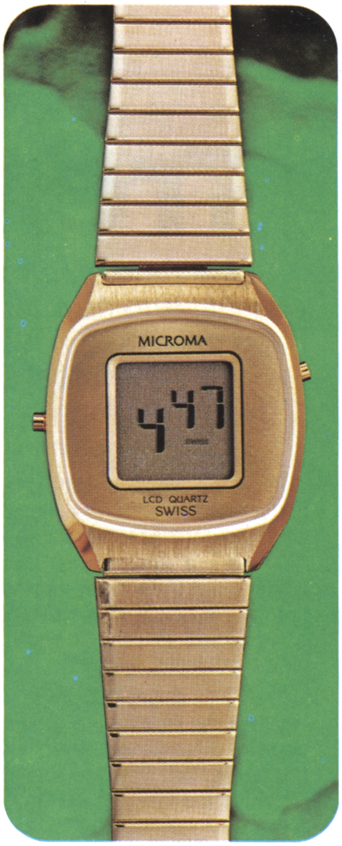
Microma Analog/Digital
Gold tone $149.95 (0121)
Full two-year warranty


MICROMA
QUARTZ
14.04

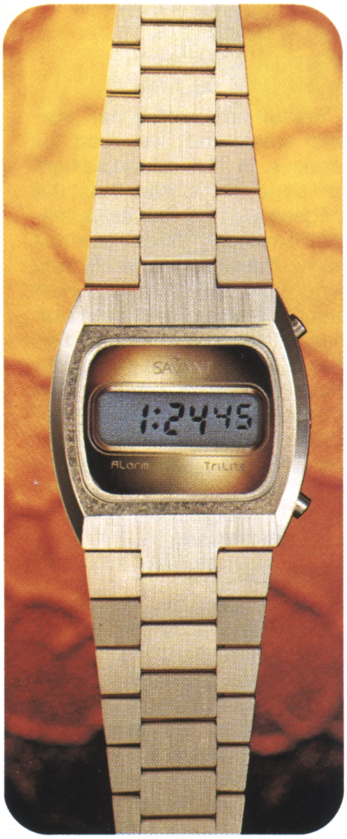
Microma Analog/Digital
Silver tone $139.95 (0122)
Full two-year warranty


MICROMA
SWISS
58.30

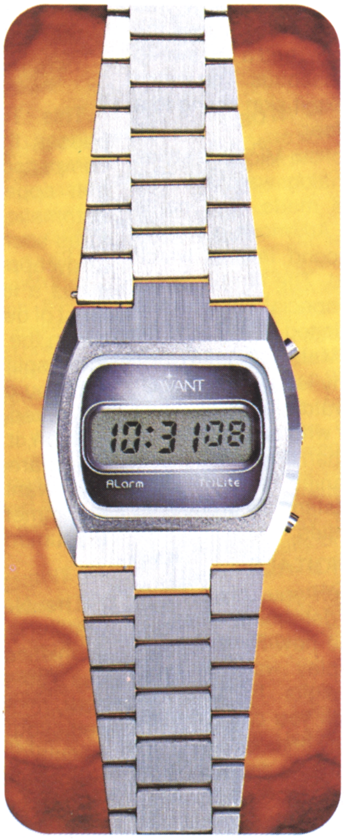
Microma Analog/Digital
Stainless $184.95 (0124)
Gold tone $199.95 (0125)
Full two-year warranty


MICROMA
447
SWISS
LCD QUARTZ
SWISS

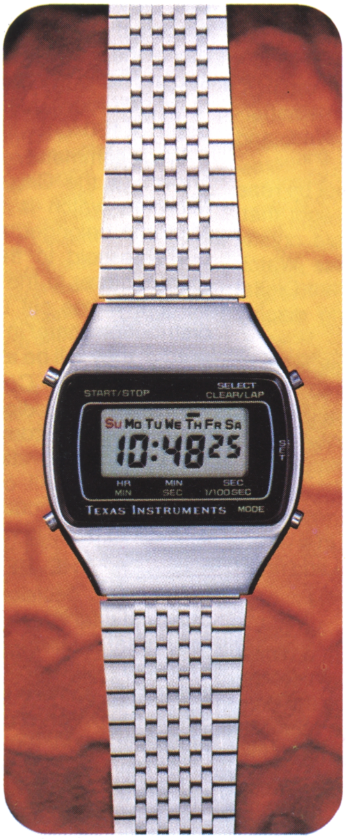
Microma Large Digital
Stainless $89.95 (0128)
Gold tone $99.95 (0129)
Full two-year warranty


SAVANT
1:2445
ALarm
TriLite

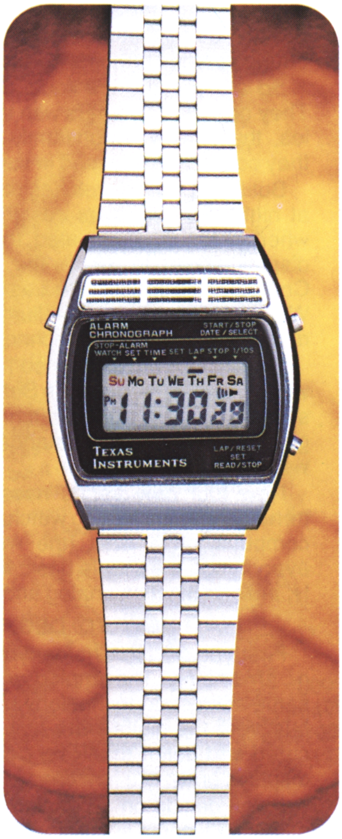
Sensor Trilite Alarm
Gold tone $140 (0163)
Limited two-year warranty


SAVANT
10:3108
ALarm
TriLite

Sensor Trilite Alarm
Silver tone $130 (0162)
Limited two-year warranty

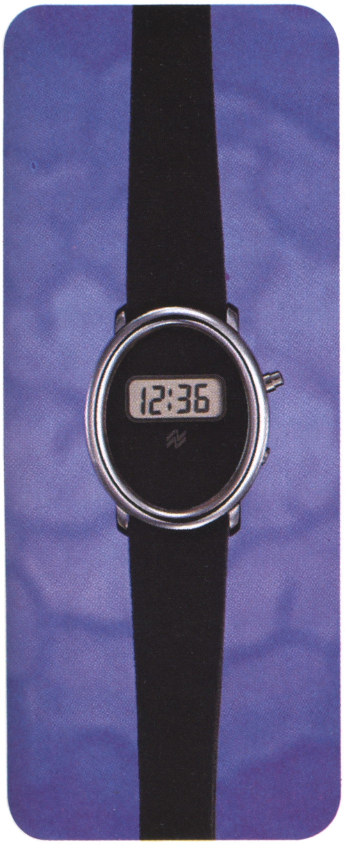

START/STOP
SELECT
CLEAR/LAP
Su Mo Tu We Th Fr Sa
10:4825
HR MIN
MIN SEC
SEC 1/100 SEC
SET
TEXAS INSTRUMENTS
MODE

TI Chronograph
Stainless $80 (0174)
Gold tone $90 (0175)
Limited two-year warranty

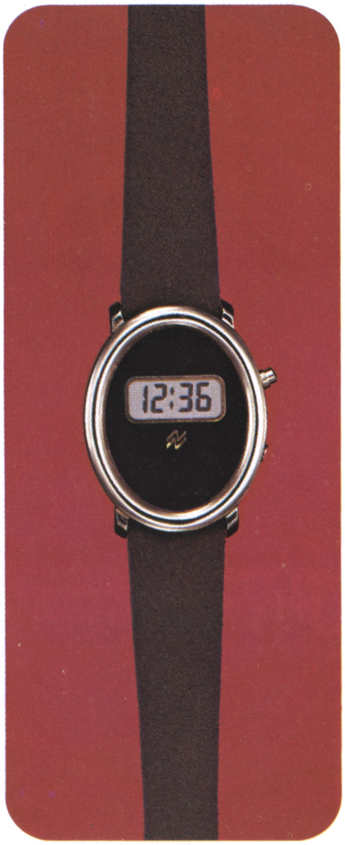

ALARM
CHRONOGRAPH
START/STOP
DATE/SELECT
STOP-ALARM
WATCH SET TIME SET LAP STOP 1/10S
Su Mo Tu We Th Fr Sa
PM 11:3029
TEXAS
INSTRUMENTS
LAP/RESET
SET
READ/STOP

TI Chrono Alarm
Silver tone $125 (0170)
Gold tone $150 (0171)
Limited two-year warranty

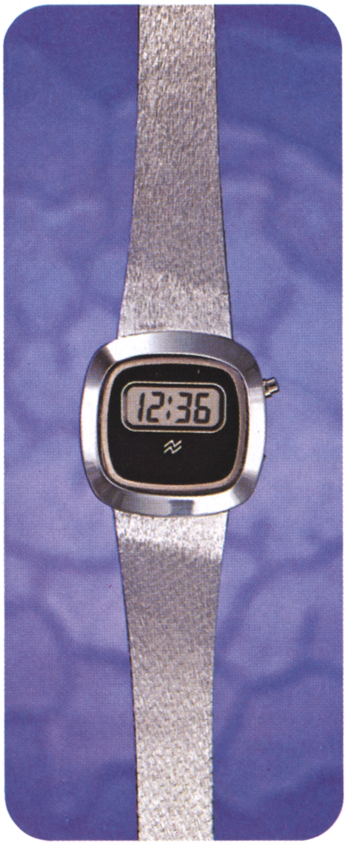
*Order numbers follow price. Add $2.50 per order for postage and handling.



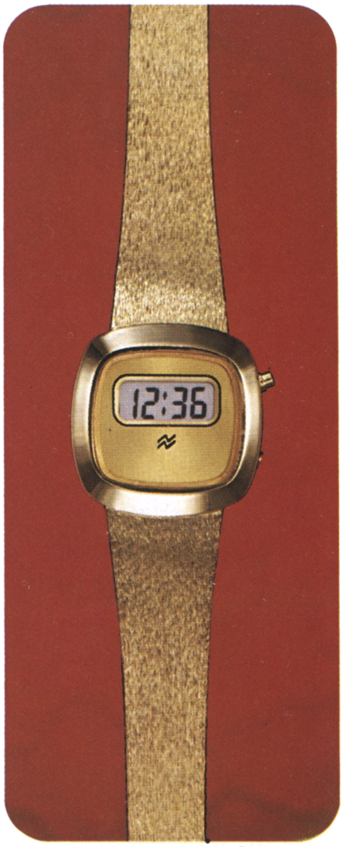
National Lady's Cameo
Silver tone $55 (0150)
Limited one-year warranty



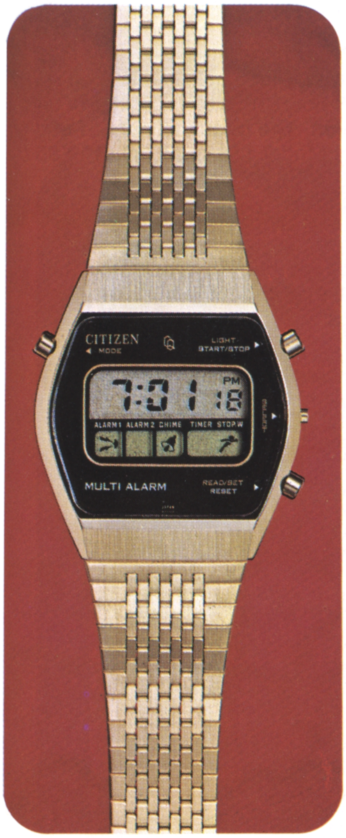
National Lady's Cameo
Gold tone $65 (0151)
Limited one-year warranty



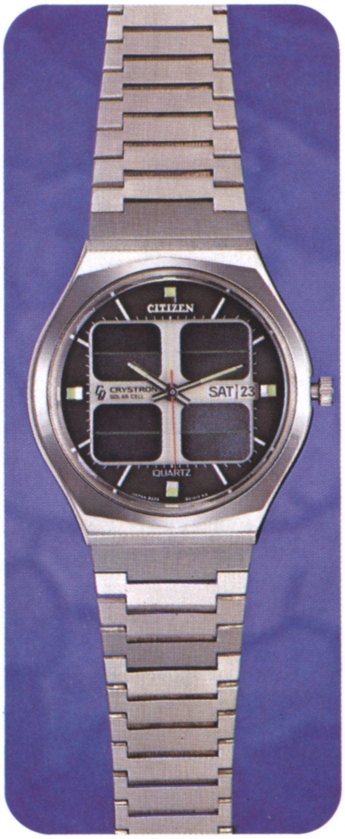
National Lady's Charm
Silver tone $65 (0154)
Limited one-year warranty



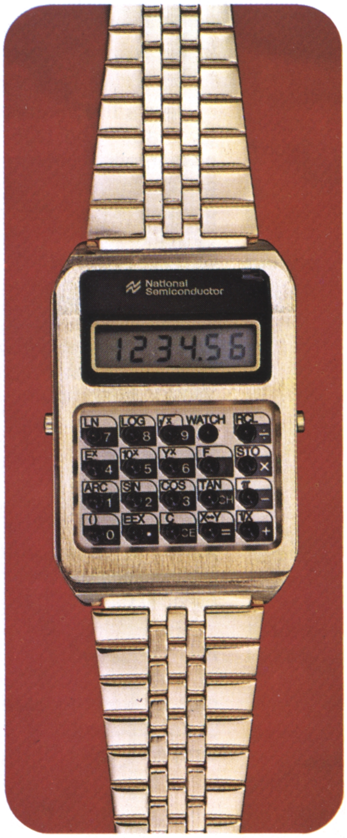
National Lady's Charm
Gold tone $75 (0155)
Limited one-year warranty


CITIZEN
MODE
LIGHT
START/STOP
7:01 18
PM
ALARM1 ALARM2 CHIME TIMER STOPW
MULTI ALARM
READ/SET
RESET

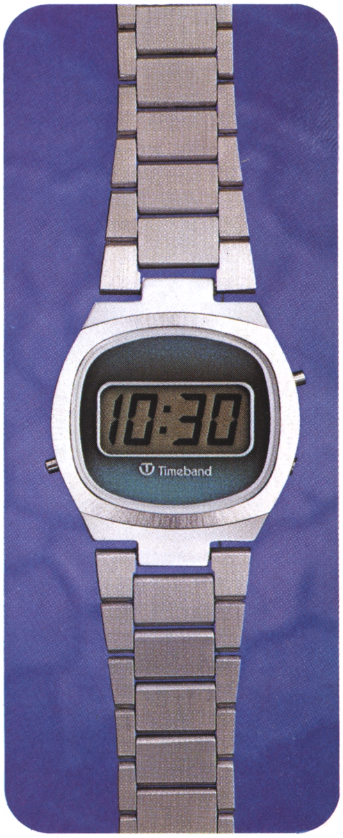
Chime Alarm Chrono
Silver tone $225 (0132)
Gold tone $255 (0133)
Limited one-year warranty


CITIZEN
CRYSTRON
SOLAR CELL
SAT 23
QUARTZ

Citizen Solar Watch
Silver tone $250 (0136)
Gold tone $275 (0137)
Limited one-year warranty


National Semiconductor
1234.56
LN
LOG
WATCH
RCL
STO
SIN
COS
TAN
ARC
EEX

National Calculator
Silver tone $250 (0158)
Gold tone $285 (0159)
Limited one-year warranty


10:30
Timeband

Fairchild Big Digit
Silver tone $39.95 (0140)
Gold tone $44.95 (0141)
Limited one-year warranty

Sharp EL 8145

Side view of the Sharp unit.

The New Calculators

Calculators continue to change. Here's the latest report on the most advanced of the new crop of personal calculators.

The calculator is still changing. And this change has gone almost unnoticed due to the tremendous increase in the number of other micro-electronic products that have had an impact on the consumer market.

The big changes are in four basic areas. Understanding these areas will help you decide whether or not it pays to invest in a new calculator and give away that old clunker you've been using for all those years.

THE NEW INTEGRATED CIRCUITS

Integrated circuits do more now than they have ever done before. They are used to tell time, store data for extended periods of time, and perform highly complex functions that required a computer just a few short years ago. As technology advances, more transistors can be placed on these integrated circuits and provide more functions for practically the same price.

THE LONG BATTERY LIFE

You don't even need on/off switches for many of today's new calculators. Batteries last for years. The reason for the long battery life is the use of highly efficient integrated circuits and the new liquid crystal displays which consume very little power.

THE NEW DISPLAYS

The liquid crystal display technology has advanced quite far. Displays are now clear and bright, easy to read, and large. No longer is it as difficult to read a display as it was when the small red LED's were used a few short years ago.

THE NEW SIZES

Calculators have always come in all sizes but never in as many sizes and shapes as today. You can get them so thin that they'll fit in your wallet or large enough for your desk.

The miniaturization has been caused by the new display technology and the smaller batteries, but it is also a result of being able to condense many of the other components on the integrated circuit. The calculators are not only smaller, but they are extremely efficient and do more functions.

The only real cost difference in calculators today is the case. If a manufacturer produces an attractive case, he can demand more money for it. The integrated circuits, displays, and all the components really cost about the same.

OUR CHOICES

We have selected what we feel to be the best of the new calculators. They represent the best style, quality, and value. If you are thinking of replacing your present calculator or if you are looking for an outstanding new gift, please consider our selections. We assure you that they are indeed the finest.

THE SHARP CREDIT CARD-SIZED

We have selected the Sharp EL 8145 unit as the finest of the thin credit card-sized units. Besides the basic functions, it has the ability to store numbers in its memory and keep them there even after you shut your unit off – perfect for keeping your checkbook balance. It also has a storage memory that automatically computes any conversion rate. You can enter the dollar/yen exchange rate, and every time you enter a price in yen, you press one key and the exact dollar value is displayed – perfect for the world traveler

There are no keys to press either. Like magic, each time you touch the correct number, a tone sounds and you automatically enter a number. And if you forget to turn it off, it will shut itself off automatically in seven minutes – only **$29.95** (2.00 Order Nr. **0701**).

THE CANON LC5

Here's the thinnest standard-sized calculator made. The LC5 features a full memory, percentage, and square root. It comes complete with a wallet-type pouch and makes a great personal calculator or a thoughtful gift. If you're looking for a good calculator, order the LC5 – only **$39.95** (2.50 Order Nr. **0702**).

THE POCKET YELLOW PAGES

We call it the Pocket Yellow Pages. It holds 20 of your most frequently dialed numbers in a memory. It also has an alpha keyboard which allows you to enter the person's name as well. To recall a number, you enter the person's name and the number appears on the display.

Even if you turn off the unit, the numbers are retained in memory. And think of those times you were stuck at a phone booth without a pencil or paper. With the Pocket Yellow Pages, you just enter the correct name and number directly into the computer.

The Pocket Yellow Pages is also a full-function calculator, so you have all the advantages of a thin calculator and an electronic memo pad as well. If you're looking for a good personal calculator, try the Pocket Yellow Pages. Only **$79.95** (2.50 Order Nr. **0703**).

VICTOR ADDING MACHINE

If you're a businessman, chances are you've heard of the name Victor and you own a few Victors in your office. Victor Comptometer has built its world-wide reputation on producing rugged office machines strictly for the business community.

The new Victor 100 electronic adding machine is designed for heavy business use. The Victor uses a heavy-duty Seiko printing head that accepts readily-available interchangeable two-color ink cartridges and operates at twice the speed of most other consumer printers. It has the standard adding machine keyboard, a date key, a percentage key, and accepts standard width paper tape. There is no memory, but remember, the Victor is used primarily to replace an adding machine. The Victor 100 sells for **$129.95** (2.50 Order Nr. **0704**).

VICTOR 12-DIGIT EXECUTIVE

The Victor Desk top Executive 12-digit electronic calculator is designed for professional use too. The keyboard uses the same key structure as the Victor printers. You have a backspace key which lets you backspace out the wrong entry and enter the correct number. There is a "full office-type" 8-position decimal setting with full punctuation to indicate thousands. The Victor has percent, full four key memory, and uses 4 penlight batteries which will last for 2,000 hours of continuous use or for years of operation. The beautifully styled and functional Victor Model 116 costs only **$89.95** (2.50 Order Nr. **0705**).

THE CASIO CQ-81

Casio's most exciting calculator is an 8-digit desk unit with percentage and four-key memory. It has a built-in digital clock which runs continuously showing hours, minutes, and seconds.

The clock also has an alarm and two timers. You can set one timer to count up and the other to count down. When you hit the preset time, your unit beeps to let you know. The digits are large – one-half inch high – and two readily-available batteries will last 10,000 hours of continuous use or 15 solid months. The Casio CQ-81 is a really outstanding buy at **$29.95** (2.50 Order Nr. **0706**).

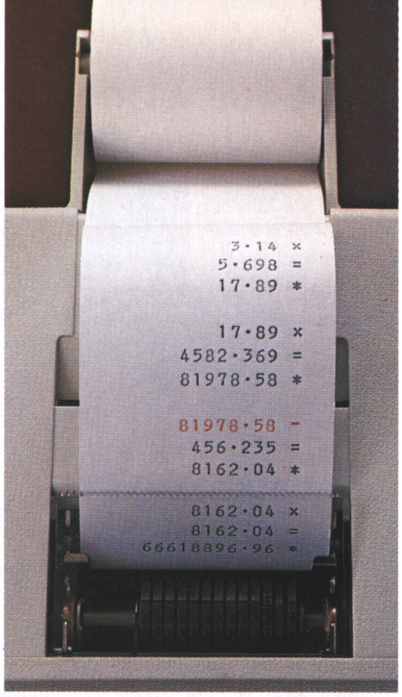
THE SHARP SCIENTIFIC

We particularly liked the Sharp Scientific model. It features all your scientific and statistical functions in a large 8-digit display with scientific notation. The unit is a brushed anodized black with the unique Sharp tone-generating keyboard. Every time you touch the function or number key, a slight tone is emitted indicating entry of that key depression.

The entire Sharp unit is almost as thin as their credit card calculator which makes it very easy to carry with you. The cost for the Sharp Scientific is only **$69.95** (2.50 Order Nr. **0707**). All calculators are shown to the right.

9'478.30 M
VICTOR 116 Executive

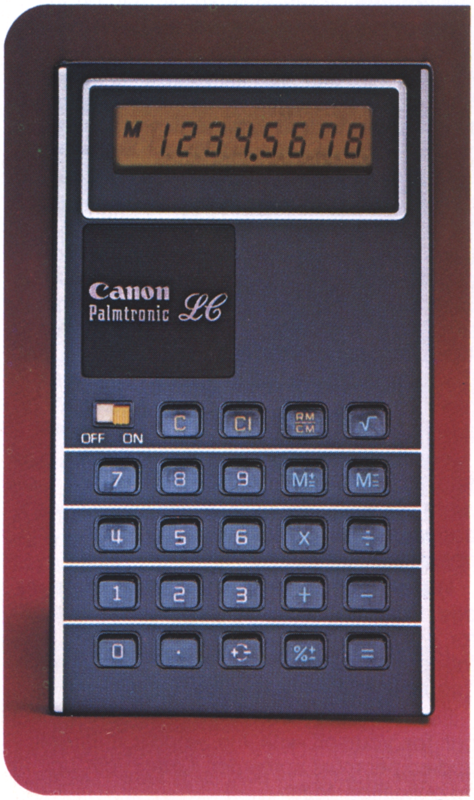
The Victor Executive.


3·14 ×
5·698 =
17·89 ∗
17·89 ×
4582·369 =
81978·58 ∗
81978·58 −
456·235 =
8162·04 ∗
8162·04 ×
8162·04 =
66618896·96 ∗

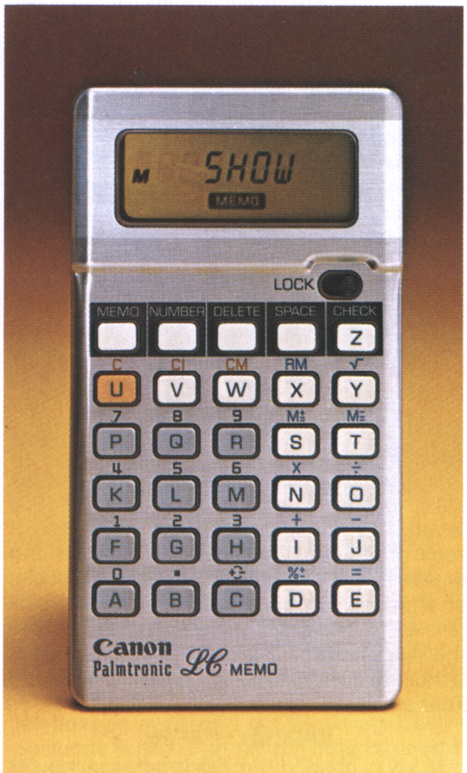
12345678
CASIO CQ-81
COMPUTER QUARTZ

The Casio CQ-81.

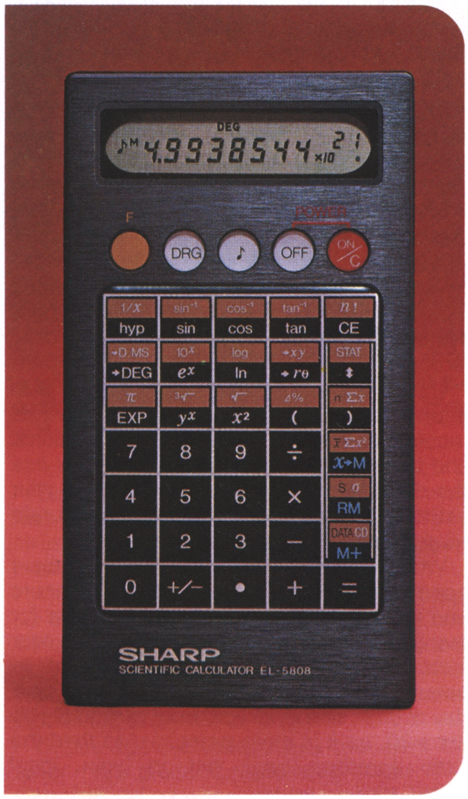
The Victor 100 printer.


M 1234.5678
Canon Palmtronic LC

The Canon LC5.

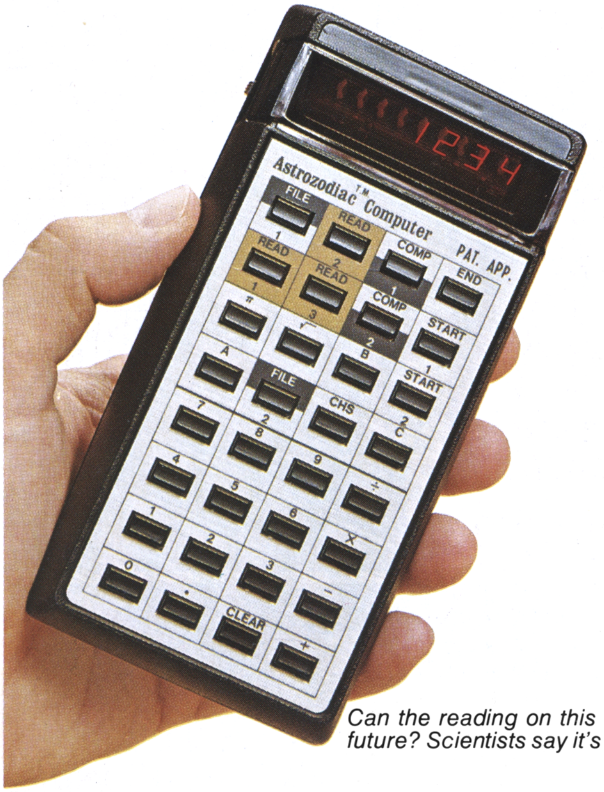

SHOW
MEMO
LOCK
Canon Palmtronic LC MEMO

The Canon Yellow Pages.

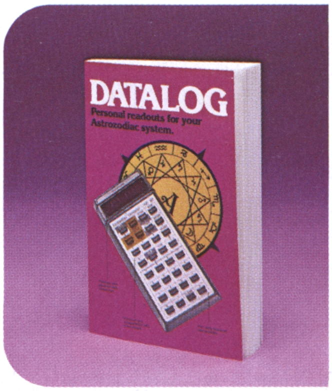

SHARP
SCIENTIFIC CALCULATOR EL-5808

The Sharp Scientific.

SPACE-AGE ASTROLOGY



Can the reading on this display predict your future? Scientists say it's all baloney.



Astrozodiac T.M. Computer
FILE
READ
COMP
PAT. A
END
START
CHS

Future Test

Is astrology fact or farce?
A new space-age product may settle that question for you once and for all.

What's your sign? Chances are you know. Even if you don't believe in astrology, you do know what sign you were born under.

Now you can use this information to determine for yourself the validity of astrology. Is it fact or farce? Science or satire?

The astrologists claim you can predict your future. According to astrologists, where and when you were born establishes a relationship with respect to you and all the planets in the solar system. They also claim that your biological clocks may be controlled or regulated by these planets and that this gives our lives a sort of predetermination.

PLENTY OF DISAGREEMENT

Scientists disagree. They claim that astrology is not a science but a farce and not subject to the disciplines required to prove the concept's validity. Why the controversy? Simple. There is no way the theory can be proven. But then again, is there?

A Los Angeles engineer working with mathematicians and astrologists has created the world's first astrological computer—a system that gives you a personalized daily forecast when you wake up in the morning.

Called the Astrozodiac computer, its program includes all the possible combinations required to forecast your life or the personal and business events in your future. You use the device on a daily basis. You enter your birthday and hour of birth (for more accurate readings) and press a few keys.

Within a few seconds, three numbers appear on your display. You take the numbers and look up your three specific forecasts for that day in a book of forecasts containing over 1200 different entries. Each forecast is personalized to your exact astrological sign, day of birth, and even your hour of birth (if you know it), so it is more personalized than the daily forecasts you get in your local newspaper.

SPACE-AGE TECHNOLOGY

The Astrozodiac computer is not a toy. Its microprocessor circuit can produce over 266 million permutations. In fact, when you press the final compute key, it takes the computer several seconds to go through the thousands of references and combinations necessary to produce the correct forecast.

COMPATIBILITY FORECASTS

Another unique feature of the unit is its compatibility program. By entering your birth date and that of a close personal friend or relation, you will get a special reading that forecasts your compatibility for that day. Will there be stress? Will there be good times? These special compatibility relationships are listed separately and two detailed forecasts are generated for both parties.

There's another section for business. Enter compatibility relationships with your business associates on a daily basis and read your forecasts.

CAN IT BE PROVEN?

What's this all leading to? Simply this. There are 32 million people who believe in astrology in the United States. There are more who enjoy following it. Could there be something to it? Is it indeed a science that can't be proven? And will it work for you personally?

Honestly, we don't know. Nor is it our business to know. We're JS&A—a company devoted to bringing the latest in microelectronic products to the consumer. As America's largest single source of space-age products, we offer you the opportunity to decide for yourself, without risk, through the magic of space-age electronics, if the concept of astrology is fact or farce. Can astrology predict the future? Here's your chance to prove it.

SPECIAL OFFER

JS&A is offering the Astrozodiac computer and book of astrological forecasts for only $69.95. We suggest you order one on a trial basis. Take the Astrozodiac computer to a party and watch it liven things up. Or bring it with you on a date or a business meeting to break the ice. Everyone wants to know their compatibility and forecast, and the Astrozodiac computer is a convenient way to do it.

Then check the forecasts every day for accuracy. See if astrology works for you. See if it predicts compatibility (with the other person not aware that you are even using it).

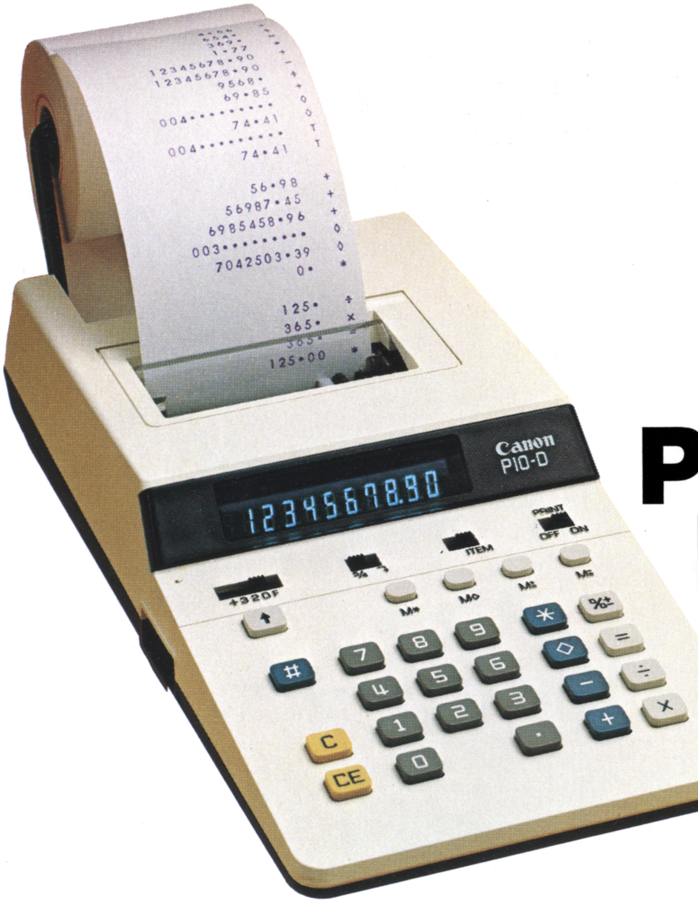
Then after a really personal trial, decide if you want to keep it. If astrology doesn't work for you, if the system isn't a great ice breaker at a party, or if you are unhappy with it for any reason, simply return your unit within our 30-day trial period for a prompt and courteous refund. You get the opportunity to prove astrology's validity without risk.

The Astrozodiac computer is manufactured for JS&A by Astrozodiac Computers, Inc. of California. Your unit should never require service and your book of forecasts should be valid until 1999. If you ever do require service, simply send your unit in its handy mailer to Astrozodiac's prompt service-by-mail facility. If you lose your book of forecasts or wish to have another copy, they are available for an additional two dollars from the manufacturer.

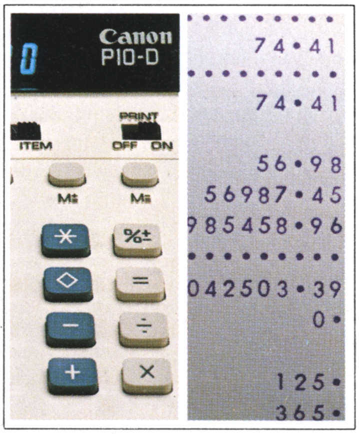
Your Astrozodiac computer costs only **$69.95** (2.50 Order Nr. **0901**). We will then promptly send you your unit, book of forecasts, batteries, one year limited warranty, and operating instructions.

We all know people who believe in astrology. Why not select the Astrozodiac as a gift for a special occasion? Your wife, your boyfriend, your business associate—they'll really appreciate your unexpected thoughtfulness.

Does astrology work? Is it fact or farce? Find out for yourself with the world's first Astrozodiac personal computer. Order your unit at no obligation, today.



HATS OFF TO IBM



Printer Break-through

A new 10-digit display calculator with the world's first dual-element integrated printing head will revolutionize the printing calculator.

Hats off to IBM. Their single-element typing system did away with typewriter keys and started a new technology.

The new Canon P10-D printing calculator starts another new technology. Their dual-element printing system does away with the standard printing head which required a separate disc for each column. The Canon has only two discs–one with digits and the other with symbols.

The P10-D head weighs only ½ ounce compared to 31 ounces in a typical printing head. Its motor weighs only nine ounces–again much less than the heavier conventional motors required to drive larger heads. The Canon motor is smaller, lighter, and more efficient because it moves less weight.

THE MOST EFFICIENT SYSTEM

The printing head is controlled by an LSI (large-scale integrated circuit). As you press a key, a pulse is generated from this circuit and sent to the motor which does two things: 1) positions the two discs to print the numbers or symbols and 2) glides the numeric disc across the ten column width of the paper.

Conventional printers print from metal discs through thick fabric ribbon onto paper. The Canon system prints directly on paper so each impression is sharp, clear, and easy to read. The synthetic polymer disc is first inked by a special cartridge before it prints. Each ink cartridge is easily replaceable. The cartridge lasts for more than 15 rolls of paper at a cost of 17¢ per roll–far less than any other system.

PLAIN PAPER PLUS

Using standard paper tape is only one of several advantages that make the Canon a truly spectacular value. Here are some other exciting new features:

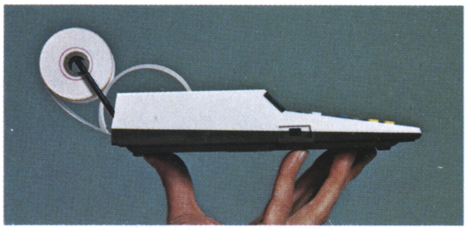
Dual Power Operate the Canon from either your AC outlet or its built-in rechargeable batteries. It's totally portable, yet it also makes a handsome desk calculator.

Dual Display Just flip a switch and the 10-digit large green fluorescent display can be used with or without the printer.

Space-Age Styling Compare the sleek appearance of the Canon with any other printer. It's small enough to fit in your brief case and large enough to use as a space-saving desk unit. It measures only 1¾" x 4¼" x 8½", weighs only 24 ounces and the paper tucks into the body of the unit–perfect for travel.

Buffered Keyboard If you enter your problems faster than the printer can print them out, don't worry. The unit's memory stores your keystrokes and prints them out in rapid succession.

We have always looked at small printers as gimmicks–calculators that lack many important features. We were surprised with the Canon. It has features that far exceed most printers costing hundreds of dollars more.



The sleek appearance of the Canon P10-D makes it a handsome addition to any desk.

The following is a list of those features: 10 digit capacity • full four-key memory • addition, subtraction, multiplication and division • percentage key • add-on and discount calculations • power and reciprocal calculations • repeat calculations • add-mode • switch for full-floating or second and third fixed decimal positions • round off or round down switch • paper tape advance.

There are other convenient features that make it perfect for people who spend hours at their calculators. There's a three-digit item counter that counts and prints out the number of entries while printing your total. The symbols on the right side of the tape tell you the nature of each entry. Even in its battery-operated position, you could print out more than half a roll of tape before the unit signals you that its batteries are low.

A NEW WAY TO BUY

JS&A offers you a new way to buy your 10-digit Canon P10-D. First we give you the opportunity to use one for 30 days. Carry it in your brief case. Put it on your desk and see how handy it becomes and how little space it takes up. Check the paper tape and see how clear and easy-to-read it is. Bring it home and let the whole family use it.

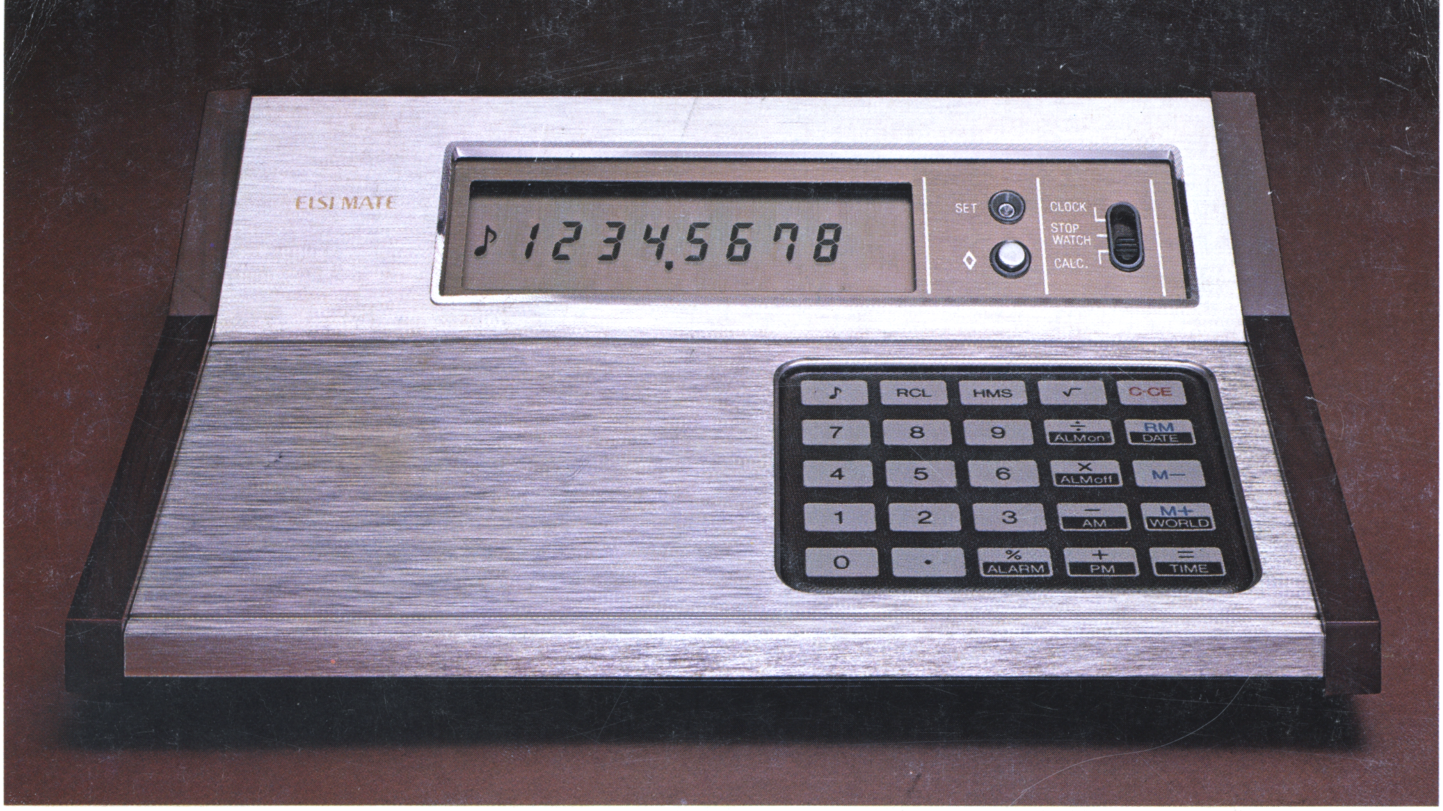
Then, within 30 days, decide. If the Canon is not perfect for you, return it for a prompt and courteous refund. And if you do return it, not only will we still consider you one of our good customers, but we will also refund your $2.50 postage, let you keep the paper tape, and thank you for giving us the opportunity to show you. We couldn't be more positive about the quality and value of the new Canon printing and display calculator.

WORLD'S LARGEST

Canon is one of the world's largest manufacturers of cameras and precision quality instruments and is highly respected as a quality manufacturer of electronic products.

The Canon costs only **$79.95** (2.50 Order Nr. **0708**) and includes a free roll of tape, one ink cartridge, rechargeable batteries, power cord/charger, dust cover, and a one year limited warranty. It's an incredible value thanks to its new technology.

Space-age technology has produced another major product breakthrough. Order your Canon P10-D at no obligation, today.



See why we selected this calculator as the featured item for our back cover.

Back Cover Calculator

We have selected the Sharp desk calculator/clock/world time computer to feature on our back cover. Placing the Sharp unit here is one of the best endorsements we can make for a new product.

The Sharp calculator displays the time constantly from its quartz crystal controlled circuit, and its readily-available penlight batteries will run more than a year without replacement.

It contains a built-in stop watch and timer with alarm. Let's say you have to leave for the airport at 2:06. You set the alarm for 2:06, and it reminds you. Or you've scheduled a meeting to last twenty minutes. Set the count-down timer to 20 minutes, and it will alert you when the twenty minutes are up.

And then it contains the time throughout the world. To find out the time in Hong Kong, just pull out the tab under the unit, read and enter the time zone number, and the exact time in Hong Kong is flashed on the display with AM or PM indicated.

You can command the Sharp to display hours, minutes, and seconds or month, date, and day of the week. And you can do time calculations such as adding up the hours on a payroll card or figuring the number of days between two dates.

On the very practical side, the unit has a fully-addressable memory, percentage, and square root, so it will do everything a conventional calculator does. A second memory can store a conversion rate, so with one key stroke you can convert dollars to yen, or marks to francs.

But the really nice feature that makes it the perfect executive gift is its appearance. The Sharp will make a really handsome addition to your desk at the office or the one in your study. The brushed aluminum and wood grain finish, its style, and functionality make it ideal for the executive wishing to combine a digital clock and calculator into a single handsome unit that will add to the appearance of a desk.

Is the Sharp overkill? Is it worth having all those functions? If you use any of the functions, the answer is obvious. But for those of you who see limited use, think in terms of value. For $79.95, you get an outstanding product that would be a value if you just used the calculator. The other features just make it more valuable and a really unique gift for that special someone on your gift list. The Sharp measures 4¾" x 7½" and looks beautiful.

We selected the Sharp for our back cover. Why not make Sharp your selection? Only **$79.95** (2.50 Order Nr. **0709**).

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ORDER FORM

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State ________ Zip ____________________

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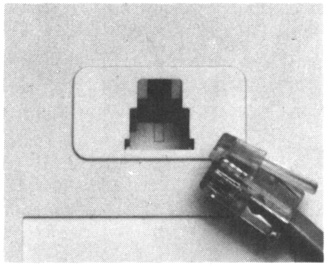

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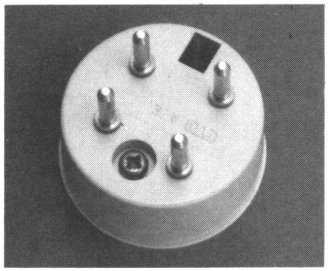

4-Prong Jack

WHEN ORDERING TELEPHONES

Please let us know what type of telephone jack connection you need. All telephones come with the new module connector shown to the top left. If you have the four-prong receptacle, you'll also need the four-prong plug adapter shown to the bottom left. Please indicate your requirement on the order form.

WHEN ORDERING BATTERIES

The following is a list of cell sizes and their prices for the batteries shown on page 24 of this catalog. Please add $1.00 for postage and handling for each battery order.

AA cell (one pair) $6.20 (**9091**)
C cell (one pair) 6.60 (**9093**)
D cell (one pair) 6.80 (**9094**)
9-volt (single) 9.95 (**9099**)

WHEN ORDERING JEWELRY

All chains are 14K gold and guaranteed the lowest priced of any available from jewelry stores, discount chains or any other source. Please order by using price and order number.

24" chains available on special request.

Code	**16" Necklace**	**18" Necklace**	**Bracelet**
A	$538 (0401)	$588 (0402)	$273 (0403)
B	479 (0405)	519 (0406)	187 (0407)
C	23 (0409)	27 (0410)	10 (0411)
D	47 (0413)	55 (0414)	24 (0415)
E	89 (0417)	102 (0418)	44 (0419)
F	22 (0421)	29 (0422)	12 (0423)

Note: Order Numbers follow price in parentheses.

ORDERING CODE

$69.95 (2.50 Order Nr. **1234**)

Price ↗ Postage & Handling ↑ Order Number ↖

WHEN ORDERING DIAMONDS

The following is a list of carat sizes, quality, and prices. VVS indicates a practically flawless diamond. VS indicates a diamond with a flaw that could be seen only with a ten-power jewelers loupe. Both VS and VVS are considered to be among the top diamond grades and are determined solely by an independent gemmologist. All prices shown below are also guaranteed lower than any retail prices. All diamonds come complete in their special sealed acrylic case along with a diamond certificate, gemmological report, pouch and diamond information booklet.

The name you wish on the Diamond Registration Certificate should be indicated in the "Special Instructions" part of this order form.

Carat Size	**Price VS**	**Price VVS**
1/5	$475 (0675)	$550 (0680)
1/4	700 (0676)	800 (0681)
1/3	950 (0677)	1100 (0682)
3/8	1300 (0678)	1450 (0683)
1/2	1900 (0679)	2200 (0684)

Prices subject to change. Call our toll-free number if you are not sure that our prices are still current.

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